

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
2004 and 2006 Biennial Regulatory Reviews - -)	WT Docket No. 10-88
Streamlining and Other Revisions of Parts 1 and)	
17 of the Commission's Rules Governing)	
Construction, Marking and Lighting of Antenna)	
Structures)	
)	
Amendments to Modernize and Clarify Part 17 of)	RM 11349
the Commission's Rules Concerning Construction,)	
Marking and Lighting of Antenna Structures)	

REPORT AND ORDER

Adopted: August 8, 2014

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By the Commission: Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai and O'Rielly
issuing separate statements.

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I. INTRODUCTION AND SUMMARY

1. Today we streamline and eliminate outdated provisions of the Commission’s Part 17 rules governing the construction, marking, and lighting of antenna structures. We take this action to improve efficiency, reduce regulatory burdens, and enhance compliance with antenna structure painting and lighting requirements, while continuing to ensure the safety of pilots and aircraft passengers nationwide. Today’s action marks another step in our process reform efforts, and will allow us to modernize our rules while adhering to our statutory responsibility to prevent antenna structures from being hazards to air navigation.

II. BACKGROUND

2. The Communications Act of 1934, as amended (the Act) grants the Commission authority to require painting and/or lighting of radio towers that may constitute a hazard to air navigation.¹ Part 17 of the Commission’s rules prescribes certain procedures for antenna structure registration (ASR) and sets forth standards to determine whether a structure may impact air navigation, consistent with recommendations made by the Federal Aviation Administration (FAA).² In particular, the Commission requires antenna structure owners to register and exercise primary responsibility for painting and lighting of antenna structures meeting the registration criteria. To ensure the ongoing compliance of antenna structures with marking and lighting requirements, Part 17 also prescribes rules governing the maintenance of the marking and lighting on antenna structures, including routine inspection obligations.

3. Under the current Part 17 rules, any proposed or existing antenna structure that requires notice of proposed construction to the FAA must be registered with the Commission.³ As a result, the Commission exercises joint, and in some circumstances overlapping oversight with the FAA of certain antenna structures. All antenna structures that are subject to Part 17 rules are therefore also subject to the FAA’s Part 77 rules concerning the safety of the navigable airspace. Under its rules, the FAA requires notification for the construction or alteration of any antenna structure that exceeds 60.96 meters (200 feet) in height above ground level, or where certain other conditions are met, including proximity to an airport runway.⁴ Antenna structure owners must file a form with the FAA, and that agency in turn determines whether the construction or alteration is subject to lighting or marking specifications prescribed in the current version of an FAA Advisory Circular entitled “Obstruction Marking and Lighting.”⁵ The FAA sends an acknowledgment to the antenna structure owner describing how the structure should be marked and lighted, which constitutes an FAA study and determination of “no hazard to air navigation.” This means that the FAA has determined that the structure will not pose a hazard to aircraft provided that the structure is marked and/or lighted consistent with its recommendations.

¹ 47 U.S.C. § 303(q).

² 47 C.F.R. §§ 17.1-17.58.

³ 47 C.F.R. § 17.4(a).

⁴ 14 C.F.R. § 77.13; 47 C.F.R. § 17.7.

⁵ Federal Aviation Administration, *Advisory Circular: Obstruction Marking and Lighting*, FAA AC 70/7460-1K (2007), available at http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%2070%207460-1K.pdf (FAA Obstruction Marking and Lighting Circular).

4. In order to register the structure with the Commission, the antenna structure owner must submit the FAA's study and "no hazard" determination, along with FCC Form 854.⁶ The Commission then verifies with the FAA the accuracy of the marking and lighting specifications provided by the applicant. If the Commission accepts the application, it issues an ASR form (Form 854R), which typically incorporates the FAA's "no hazard" marking and/or lighting specifications and assigns the antenna an ASR number. Once an antenna structure is registered, its owner must ensure that the structure complies with all of the relevant FAA chapters specified on the registration, or the owner may be subject to Commission enforcement action. No changes to the specifications in the ASR are permitted without prior approval from both the FAA and the Commission; owners wishing to change an antenna structure's specifications must first seek FAA approval, and only then may they file a request with the Commission to amend the ASR. Prior to changing the marking or lighting on the structure, antenna structure owners must receive an amended ASR form from the Commission incorporating the change.

5. In 2010, the Commission initiated a proceeding to update and modernize its Part 17 rules to improve compliance and enforcement objectives, and to eliminate outdated and burdensome requirements that may no longer serve safety objectives.⁷ In the Notice of Proposed Rulemaking (*Notice*), the Commission proposed amendments to the Part 17 rules, including harmonizing these rules with FAA rules where appropriate.⁸ Among other proposals, the Commission sought comment on potential changes to the Part 17 rules governing ASR and marking and lighting specifications, as well as inspection and maintenance of lighting and painting requirements. These issues were raised in the 2004 Biennial Review,⁹ and in a subsequent Petition for Rulemaking filed by PCIA—The Wireless Infrastructure Association (PCIA) to modernize and clarify the Part 17 rules.¹⁰

III. DISCUSSION

6. In this *Report and Order*, we adopt numerous revisions to our Part 17 rules to simplify procedures and clarify the obligations of antenna structure owners in order to ensure air safety. The steps we take today to streamline our rules will improve efficiency and reduce regulatory burdens, which we anticipate may enhance compliance and air safety.¹¹ As explained in detail below, we first streamline

⁶ 47 C.F.R. § 17.4(b). The registration process is generally completed online at the Commission's ASR Online System website, available at <http://wireless.fcc.gov/antenna/>. This website provides comprehensive information about the registration process and the Part 17 rules.

⁷ See *2004 and 2006 Biennial Regulatory Reviews -- Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures*, WT Docket No. 10-88, Notice of Proposed Rulemaking, 25 FCC Rcd 3982 (2010) (*Notice*).

⁸ See *Notice*, 25 FCC Rcd at 3987, para. 8.

⁹ The Biennial Review is required by Congress to identify and eliminate any regulations that may no longer serve the public interest as the result of meaningful economic competition between providers. 47 U.S.C. § 161. The Wireless Telecommunications Bureau (WTB) staff found that while the Part 17 rules are not affected by competitive developments as required by the statute, certain modifications may be in the public interest for other reasons. *Federal Communications Commission 2004 Biennial Regulatory Review*, WT Docket No. 04-180, Wireless Telecommunications Bureau Staff Report, 20 FCC Rcd 124, 158 (WTB 2005) (recommending that the Commission initiate a proceeding to modify or eliminate Part 17 rules where appropriate).

¹⁰ Petition for Rulemaking, RM-11349, *In the Matter of Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures*, filed by PCIA—The Wireless Infrastructure Association on September 12, 2006 (PCIA Petition for Rulemaking). The PCIA Petition for Rulemaking was placed on Public Notice on October 30, 2006. *Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemakings Filed*, Public Notice, Report No. 2794 (rel. Oct. 30, 2006). Sprint Nextel Corporation (Sprint Nextel), Cingular, Crown Castle USA, Inc. (Crown Castle) and the National Association of Broadcasters (NAB) filed comments in response to PCIA's petition.

¹¹ *Notice*, 25 FCC Rcd at 3983, para. 1.

several requirements regarding the ASR process to remove conflicting or ambiguous rules. Among these changes, we harmonize our rules with FAA recommendations on antenna structure lighting and marking specifications, construction notification requirements, and the accuracy of data that antenna structure owners must provide. Next, we update our rules regarding the maintenance of antenna structure painting and lighting. Specifically, we exempt owners that use robust, modern monitoring systems from the quarterly inspection requirement. We also improve our lighting outage notification requirements, standardize repair timelines, harmonize our requirements to maintain painting with current FAA publications, and remove outdated provisions from our Part 17 rules.

7. To help ensure that our rules continue to reflect current FAA guidelines and publications, we further delegate rulemaking authority to the Wireless Telecommunications Bureau (WTB) to make nonsubstantive, editorial revisions to the Commission's Part 17 rules to reflect future FAA rule changes and recommendations after providing an opportunity for notice and comment.¹² We anticipate that this limited delegation of authority will help to mitigate conflicts that may arise as a result of other rulemakings or new recommendations by the FAA, and will allow us to more rapidly address situations where our rules may diverge from FAA requirements.¹³

A. Antenna Structure Registration and Specifications

8. In the *Notice*, the Commission proposed several revisions to its rules governing the ASR process to update and modernize them while ensuring the safety of pilots and aircraft passengers. In particular, the *Notice* proposed to clarify requirements and harmonize them with current FAA rules. The Part 17 rules that we revise today overlap in significant respects with FAA rules, reflecting our shared responsibility to ensure that the infrastructure we regulate does not pose a risk to public safety. Diverging requirements create unnecessary ambiguity for antenna structure owners attempting to comply with both sets of rules, which ultimately harms the public interest. Accordingly, in the actions we take today, we seek to provide clarity to antenna structure owners and, where appropriate, defer to the FAA on matters of air safety.

1. Antenna Structure Marking and Lighting Specifications

a. Provisions Governing Specification of Marking and Lighting

9. *Background.* The Part 17 rules provide criteria regarding which antenna structures require painting and lighting.¹⁴ Whenever painting or lighting is required, the rules provide that antenna structures must conform to the painting and lighting recommendations provided by the FAA in its determination of "no hazard," as referenced in two FAA Advisory Circulars (from 1996 and 1995, respectively).¹⁵ The rules also provide that the Commission will generally conform its lighting and

¹² This delegation constitutes a rule of agency practice or procedure that does not require notice and comment under the Administrative Procedures Act (APA). See 5 U.S.C. § 553(b)(3)(A).

¹³ For example, as discussed *infra* in III.C.2, we anticipate WTB could use this delegated authority to update the criteria for which antenna structures require notification to the FAA, see 47 C.F.R. § 17.4, if the FAA changes its requirements in the future, so long as novel questions of fact, law, or policy are not involved. This delegation is consistent with the approach the Commission has taken in other contexts. See 47 C.F.R. § 0.241(i); 47 C.F.R. § 0.331(d).

¹⁴ Largely mirroring the criteria for structures that require FAA notification under the FAA's rules, the Commission specifically requires painting and lighting for an antenna structure if it exceeds 200 feet in height or requires an aeronautical study, unless the applicant can show that lesser or no marking/lighting would not harm air safety. 47 C.F.R. § 17.21.

¹⁵ 47 C.F.R. § 17.23 ("[E]ach new or altered antenna structure to be registered on or after January 1, 1996, must conform to the FAA's painting and lighting recommendations set forth on the structure's FAA determination of 'no hazard,' as referenced in the following FAA Advisory Circulars: AC 70/7460-1J, 'Obstruction Marking and Lighting,' effective January 1, 1996, and AC 150/5345-43E, 'Specification for Obstruction Lighting Equipment,' dated October 19, 1995.").

marking specifications to those set forth in these two FAA Advisory Circulars, but that it may specify different requirements for individual structures.¹⁶ In the *Notice*, the Commission proposed to clarify that the FAA's recommended specifications are generally mandatory, but that the Commission may specify additional or different requirements, and that no changes may be made to the lighting or marking specifications on an ASR without prior FAA and Commission approval.¹⁷ The Commission also proposed modifications to these rules to simply reference FAA marking and lighting requirements rather than specifying particular FAA publications.¹⁸

10. *Discussion.* We revise our rules to eliminate any reference to older FAA Advisory Circulars, and instead require structure owners to comply with the FAA's "no hazard" determination and associated study for a structure in establishing painting and lighting specifications. We find that this revision to our rules will serve the public interest because it streamlines and clarifies the requirements applicable to structure owners. We agree with commenters that references in our rules to outdated FAA Advisory Circulars could cause confusion,¹⁹ and that eliminating specific references to FAA publications will clarify the lighting and marking obligations of antenna structure owners should any FAA Advisory Circulars change in the future.²⁰ Requiring structure owners to comply with the FAA's "no hazard" determination and associated study when establishing painting and lighting specifications for a structure ensures a level of consistency between our rules and the FAA's rules and policies. However, consistent with the Commission's proposal in the *Notice*, we modify Section 17.4 of our rules to clarify that the Commission retains the right, in its discretion, to impose additional or different lighting and marking requirements to ensure structures do not pose an air hazard.²¹ Further, we clarify that no changes may be made to the lighting or marking specifications on an ASR without prior approval from both the FAA and the Commission.²² No commenters opposed either of these proposals. We find that these clarifications are appropriate in order to limit the possibility of confusion among antenna structure owners and to fulfill our statutory obligation to ensure that antenna structures have appropriate marking and lighting so as not to pose a menace to air navigation.²³

¹⁶ 47 C.F.R. § 17.22.

¹⁷ *Notice*, 25 FCC Rcd at 3988-89, para. 13.

¹⁸ *Id.* at 3988, 3989, paras. 11, 14.

¹⁹ Comments of National Telecommunications Cooperative Association at 4 (NTCA Comments); Comments of Hatfield & Dawson at 1 (Hatfield & Dawson Comments); Comments of the National Association of Broadcasters at 5 (NAB Comments); Reply Comments of United States Cellular Corporation at 2 (USCC Reply Comments); Comments of Patrick Worsham, Alexander Utility Engineering at 1 (Patrick Worsham Comments); Comments of Verizon Wireless at 2 (Verizon Comments).

²⁰ Comments of American Tower Corporation at 3 (ATC Comments).

²¹ We will in general comport our requirements with the FAA's study and "no hazard" determination, but pursuant to our statutory authority that the Commission exercise its own judgment on the possibility that painting or lighting might constitute an air hazard, *see* 47 U.S.C. § 303(q), we reserve the authority to specify our own requirements on a case-by-case basis, as appropriate.

²² *Notice*, 25 FCC Rcd at 3988-89, para. 13.

²³ We note that the courts have upheld agency action (e.g., a grant of a request) that is conditioned on the beneficiary of the action first securing another agency's action or determination on a reasonably related matter. For example, in *Louisiana Forestry*, the court affirmed a rule adopted by the Department of Homeland Security (DHS) that required parties seeking a certain work visa to first obtain a temporary labor certification from the Department of Labor. Specifically, the court found that the DHS rule provides for a type of "legitimate outside party input into agency decision-making processes." *Louisiana Forestry Ass'n Inc. v. U.S. Dept. of Labor*, 745 F.3d 653, 672 (3d Cir. 2014). *See also USTA v. FCC*, 359 F.3d 554, 567 (D.C. Cir. 2004) ("[A] federal agency entrusted with broad discretion to permit or forbid certain activities may condition its grant of permission on the decision of another entity, such as a state, local, or tribal government, so long as there is a reasonable connection between the outside

(continued....)

11. We decline to adopt the proposal from the Conservation Groups to expressly reference any FAA Advisory Circulars or other relevant policy documents that may address antenna structure owners' latitude to adopt lighting configurations that reduce adverse effects to birds and wildlife, consistent with aircraft navigation safety.²⁴ Notwithstanding concerns regarding the effect of antenna structure lighting on wildlife, referencing particular circulars in our rules could lead to confusion, given the likelihood that the requirements or policies reflected in these publications will evolve over time. Furthermore, the FAA has not yet revised its Advisory Circulars to reflect the availability of new lighting configurations that do not employ steady-burning lights, and so citing to the current publications will not address the concerns of conservation advocates. Under our revised rules, antenna structure owners may still be able to change their lighting configurations to those that reduce impact on birds and wildlife, consistent with current or future FAA recommendations. We note that we have previously encouraged antenna structure owners and conservation advocates to work together to reduce negative effects on wildlife,²⁵ and our rules specifically require an Environmental Assessment (EA) for avian effects of antenna structures exceeding certain heights pending a final determination as to what, if any, permanent measures should be adopted specifically for the protection of migratory birds.²⁶

b. Retroactive Application of New Specifications

12. *Background.* The Commission's rules provide an exemption to the lighting and marking requirements for previously authorized antenna structures,²⁷ and provide that changes in the FAA circulars do not impose new restrictions upon existing structures.²⁸ In the *Notice*, the Commission proposed to delete these exemptions as unnecessary in light of the proposal to remove references to specific circulars, as described above. The *Notice* also sought comment on a proposal clarifying that lighting and marking requirements do not change unless the FAA recommends new specifications for a

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entity's decision and the federal agency's determination."); *United States v. Matherson*, 367 F.Supp. 779, 782–83 (E.D.N.Y. 1973), *aff'd* 493 F.2d 1339 (2d Cir.1974) (upholding the decision of the Fire Island National Seashore Superintendent to condition issuance of federal seashore motor vehicle permits on the applicant's acquisition of an analogous permit from an adjacent town).

²⁴ Comments of Caroline Kennedy (Defenders of Wildlife, American Bird Conservancy, and National Audubon Society) at 3 (Conservation Groups Comments). See also James W. Patterson, Jr., *Evaluation of New Obstruction Lighting Techniques to Reduce Avian Fatalities*, DOT/FAA/TC-TN12/9 (2012), available at <http://www.airporttech.tc.faa.gov/safety/downloads/TC-TN12-9.pdf> (FAA 2012 Conspicuity Study) ("The researchers were able to prove through flight tests and evaluation of several different obstruction lighting configurations that the L-810 fixture can be omitted or flashed to reduce their impact on migratory bird mortality, and still provide sufficient conspicuity for pilots to see and avoid the obstruction.").

²⁵ See Memorandum of Understanding Concerning Interim Antenna Structure Registration Standards, submitted May 4, 2010 (MOU). The MOU is signed by the Infrastructure Coalition, consisting of CTIA—The Wireless Association, the National Association of Broadcasters, PCIA—The Wireless Infrastructure Association, the National Association of Tower Erectors (Infrastructure Coalition), and by the Conservation Groups. See also Federal Communications Commission, *Opportunities to Reduce Bird Collisions with Communications Towers While Reducing Tower Lighting Costs* (May 19, 2014), available at http://wireless.fcc.gov/migratory-birds/FCC_tower_light_change_information_May_2014.pdf (FCC Tower Lighting Deviation Guidance).

²⁶ 47 C.F.R. 1.1307(d) (interim rule authorizing the Bureau to require an environmental assessment for an otherwise categorically excluded action involving a new or existing antenna structure for which an antenna structure registration application (FCC Form 854) is required under the Part 17 rules if the structure will be over 450 feet above ground level in certain circumstances); *NEPA Order on Remand*, 26 FCC Rcd at 16732-33, paras. 81-82. We note also that in reviewing an EA, we may find that a particular lighting configuration is necessary for a specific tower in order to support a "Finding of No Significant Impact."

²⁷ 47 C.F.R. § 17.17(a).

²⁸ 47 C.F.R. § 17.17(b).

particular structure. The Commission asked whether, in the alternative, it should instead have the flexibility to apply any new standards retroactively in the event that the FAA changes its standards.²⁹

13. *Discussion.* We revise our rules to clarify that we generally will not require existing antenna structures to comply with any new lighting and marking requirements unless the FAA mandates application of such changes with regard to a particular structure. In addition, we delete the exemption to the lighting and marking requirements in our current rules for previously authorized structures, because the revisions we adopt here make those exemptions unnecessary. We note that this approach is consistent with the one taken by the FAA, the expert agency on air safety.³⁰ Moreover, we agree with commenters that applying new marking and lighting guidelines retroactively to existing structures could be extremely burdensome, both in economic costs to owners that would be required to update existing equipment or purchase new equipment, and in Commission resources that would be necessary to handle the large influx of ASR filings.³¹ We therefore find that, on balance, the costs associated with retroactive application of new lighting and marking specifications outweigh any limited corresponding benefit. We will, however, require antenna structure owners to comply with any new specifications that the FAA recommends for particular structures, consistent with PCIA's proposal. This approach will ensure that particular safety needs are met without unduly burdening industry and agency resources.

14. Conservation Groups is the sole commenter to oppose this proposal. It urges the Commission to retroactively impose new specifications requiring the extinguishment of certain steady burning lights as a result of recommendations from the FAA 2012 Conspicuity Study.³² While we understand the concerns of Conservation Groups regarding the effect of antenna structure lighting on wildlife, the FAA has not yet updated its Advisory Circulars to reflect the outcome of the study.³³ We will monitor any future determination that the FAA makes on whether to retroactively apply changes to the Advisory Circular's marking and lighting specifications resulting from the 2012 Conspicuity Study. Moreover, as previously discussed, we will continue to encourage antenna structure owners to mitigate any adverse impact to wildlife and will consider any such impact through our EA review process.

²⁹ Notice, 25 FCC Rcd at 3988, para. 12.

³⁰ See 14 C.F.R. § 77; *Streamlining the Commission's Antenna Structure Clearance Procedure and Revision of Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures*, Report and Order, 11 FCC Rcd 4272, 4293, para. 49 (1995) (noting that "the FAA recommends painting and lighting for antenna structures prior to construction only, and thereafter does not recommend periodic updates"); see also CTIA Comments at 3.

³¹ Hatfield & Dawson Comments at 1; NTCA Comments at 4; NAB Comments at 4; USCC Reply Comments at 2; Letter from Jonathan M. Campbell, Policy Analyst, PCIA, to Marlene H. Dortch, Secretary, Federal Communications Commission at 2 (Nov. 22, 2010) (PCIA Ex Parte); Letter from Monica Gambino, Vice President, Legal, Crowne Castle USA, to Marlene H. Dortch, Secretary, Federal Communications Commission at 1 (Dec. 10, 2013) (Crowne Castle Ex Parte); Verizon Comments at 3-4.

³² Conservation Groups Comments at 3 ("Our main opposition to such a specification is that it is unlikely the FAA will recommend extinguishing L810s. It is more likely that it will simply allow the lights to be removed or modified."). See also FAA 2012 Conspicuity Study.

³³ FAA Obstruction Marking and Lighting Circular. Currently, antenna structure owners may seek lighting system deviations from the FAA allowing them to extinguish, or not to install, steady-burning lights that would otherwise be required under the Advisory Circular on towers 350 feet or more in height. See *FCC Tower Lighting Deviation Guidance* ("The FAA has determined that extinguishing the L-810, non-flashing lights on towers taller than 350 ft. Above Ground Level (AGL) but maintaining the flashing lights is safe for aviation."). The FAA has not yet approved equipment that would allow flashing lights to replace steady-burning side lights on structures less than 350 feet tall.

2. Accuracy of Height and Location Data

15. *Background.* Under the existing rules, alteration of an existing antenna structure requires the owner to obtain a new registration prior to alteration.³⁴ However, the rules do not define what constitutes an alteration requiring registration. In the *Notice*, the Commission proposed to add new language specifying that any change in height of one foot or greater, or any change in coordinates of one second or greater, requires prior approval from both the FAA and the Commission.³⁵ The Commission also sought comment on whether to require the height and location data to be accurate to within one foot and one second of latitude and longitude, respectively,³⁶ and whether to require that a specific survey methodology (e.g., GPS) be used when conducting measurements.³⁷

16. *Discussion.* We amend the rules to require our prior approval for any change or correction of one foot or greater in height, or one second or greater in location, as compared to the height or location data provided on the antenna structure's ASR form. As NTCA notes, requiring supplemental notice for such changes in height or location codifies existing industry practice, and we conclude this requirement will reinforce air safety.³⁸ While some commenters propose different height or location standards,³⁹ as noted above, changes in height of one foot or greater, or in location of one second or greater, requires a new aeronautical study and determination of "no hazard" by the FAA. We defer to the FAA's expertise on these matters in finding that these requirements are sufficient to help ensure air safety. On balance, we conclude that harmonizing our standards for when changes in height or location require supplemental notice with the FAA's requirement for when a new study is required is in the public interest, as it provides greater clarity to structure owners without harming air safety.

17. We also decline to impose a requirement that antenna structure owners use specific survey methods when conducting site measurements or that height measurements must be accurate within one foot and coordinates accurate within one second of latitude or longitude. Instead, we will continue to defer to the FAA, and will require antenna structure owners to provide height and location measurements matching those provided to the FAA in their applications.⁴⁰ Commenters overwhelmingly oppose both

³⁴ 47 C.F.R. § 17.4(a)(1).

³⁵ *Notice*, 25 FCC Rcd at 3990, para. 17. The Commission previously determined that the FAA requires a new aeronautical study and determination of "no hazard" for a change or correction of antenna structure site data of one second or greater in longitude or latitude, or one foot or greater in height. *Streamlining the Commission's Antenna Structure Clearance Procedure and Revision of Part 17 of the Commission's Rules Concerning Construction, Marking, and Lighting of Antenna Structures*, WT Docket No. 95-5, Report and Order, 11 FCC Rcd 4272, 4287, para. 35 (1995) (*ASR Streamlining Order*).

³⁶ *Notice*, 25 FCC Rcd at 3990, para. 17.

³⁷ *Id.*

³⁸ NTCA Comments at 5 (noting that "a one foot/one second change notice requirement reflects the industry's current practice," and formalizing this in the rules is appropriate). See also USCC Reply Comments at 3.

³⁹ See Henry Ruhwiedel Comments at 1 (suggesting a height standard of one meter); Patrick Worsham Comments at 3 (suggesting a height standard of five feet); Ralph M. Wallem Comments at 1 (explaining that a "one second move in latitude or longitude can result in a distance on the ground of over 70 feet" and that "FAA accuracy standards . . . are more stringent than this").

⁴⁰ In order to promote accuracy in our database, the Commission does not process a registration application where the measurements differ from those on the FAA determination of "no hazard" by more than one second in latitude or longitude, or one foot in height. See *Streamlining the Commission's Antenna Structure Clearance Procedure and Revision of Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures*, WT Docket No. 95-5, Memorandum Opinion and Order and Order on Reconsideration, 15 FCC Rcd 8676, 8678-79, para. 5 (2000) (*ASR Clarification Order*).

the Commission applying its own accuracy standards,⁴¹ and requiring a particular survey method.⁴² We conclude that adopting accuracy standards or survey methods that differ from those required by the FAA may be unduly burdensome and could cause confusion, which in turn could discourage compliance and ultimately harm air safety. While requiring our own accuracy standards, or mandating the use of particular survey methods (e.g., GPS) could improve the accuracy of information that we keep on file, it is our goal to harmonize our approach with the FAA's where doing so will not harm air safety. From the record, we are convinced that the standards set by the FAA, as the expert agency on air safety, are sufficient here. Further, generally requiring compliance with existing FAA guidelines rather than codifying the FAA's current standard will avoid confusion and allow our rules to keep pace with FAA policies as they evolve over time.

3. Notification of Construction or Dismantlement

18. *Background.* The Part 17 rules currently require the owner of an antenna structure to notify the Commission within 24 hours of construction or dismantlement, and to notify the Commission immediately of changes in height or ownership.⁴³ FAA rules generally require owners to file supplemental notice within five days of the time that a construction or alteration of a structure reaches its greatest height, a proposed construction or alteration is abandoned, or a construction or alteration is dismantled or destroyed.⁴⁴ In its petition for rulemaking, PCIA proposed that the Commission harmonize its notification requirements with FAA rules, modifying the notification windows to five days.⁴⁵ In the *Notice*, the Commission tentatively rejected these proposed changes, noting that commenters had not cited relevant FAA requirements nor explained why these would be appropriate for the Commission's purposes.⁴⁶

19. *Discussion.* We modify our rules regarding supplemental notification of construction, changes, or dismantlement to require that the owner of an antenna structure shall notify the Commission within five days of when a construction or alteration of a structure reaches its greatest height, when a construction or alteration is dismantled or destroyed, and when there are changes in structure height or ownership. We note that commenters unanimously support these timing requirements,⁴⁷ and in so doing we harmonize our requirements with the FAA's rules. Although in the *Notice*, the Commission emphasized that the accuracy and timeliness of information submitted to the Commission is important,⁴⁸

⁴¹ AT&T Comments at 3-4 ("If the FCC adopts specific accuracy requirements and/or survey methods, it runs the risk that the FAA and FCC requirements will be different over time, *i.e.*, the same risk that the Commission is trying to correct by eliminating references to specific FAA Advisory Circulars in its rules."). See also NAB Reply Comments at 4; PCIA Reply Comments at 5; USCC Reply Comments at 3; Hatfield & Dawson Comments at 2; Patrick Worsham Comments at 3. One commenter supports the Commission's proposed accuracy requirements with regard to location data, but urges the Commission to provide more flexibility for height data. See Comments of the American Petroleum Institute, filed July 20, 2010 at 4 (API Comments).

⁴² Commenters argue that imposing a requirement to use a particular survey method would pose an unreasonable burden on small rural antenna structure owners. See NTCA Comments at 5; Hatfield & Dawson Comments at 2; Reply Comments of PCIA—The Wireless Infrastructure Association, filed August 19, 2010 at 5 (PCIA Reply Comments); USCC Reply Comments at 3. But see Patrick Worsham Comments at 4 ("In obtaining the site data . . . modern technology should be utilized . . . [including] but not limited to modern handheld GPS.").

⁴³ 47 C.F.R. § 17.57.

⁴⁴ 14 C.F.R. § 77.11.

⁴⁵ PCIA Petition for Rulemaking at 17.

⁴⁶ *Notice*, 25 FCC Rcd at 4000, para. 45.

⁴⁷ NTCA Comments at 10; USCC Reply Comments at 8; Patrick Worsham Comments at 9-10; Verizon Comments at 16.

⁴⁸ See *Notice*, 25 FCC Rcd at 4000, para. 45.

on balance we now agree with commenters that compliance with substantially similar requirements that have different filing timelines can be burdensome and confusing.⁴⁹ Given that the FAA, as the expert agency on matters of air safety, has determined that allowing a delay of five days between completion of construction, dismantlement, or changes in height is acceptable, we conclude that harmonizing our timing rules with the FAA's requirements eases regulatory burdens without compromising safety.

4. Voluntary Antenna Structure Registration

20. *Background.* Under the Commission's rules, only antenna structures meeting specified height or location criteria must be registered,⁵⁰ although the rules do not preclude voluntary registration of antenna structures not meeting those criteria. In the *Notice*, the Commission sought comment on whether the Part 17 rules should be enforced against antenna structures that are voluntarily registered.⁵¹ The Commission also asked whether it should prohibit owners from voluntarily registering structures and require owners to remove voluntarily registered structures from the database.⁵² As the Commission noted, such action could reduce confusion concerning the regulatory status of these structures.⁵³ However, the *Notice* also explained that many owners register antenna structures voluntarily in order to file an Environmental Assessment and obtain a Finding of No Significant Impact under the Commission's environmental rules, or to satisfy other needs.⁵⁴

21. *Discussion.* We will continue to allow owners to voluntarily register antenna structures, but we will change the registration form to require owners to designate when a particular registration is done voluntarily. All but one commenter advocates continuing to allow voluntary registration of antenna structures.⁵⁵ We agree with commenters that argue that prohibiting voluntary registration would be burdensome for antenna structure owners that may need to register their structures to comply with the Commission's environmental rules to meet regulatory requirements, or for other reasons.⁵⁶ We find that, by modifying the registration form in a minor way to require an antenna structure owner to designate whether a registration is voluntary, we strike the right balance between administrative efficiency and burdens on antenna structure owners. Further, while we will require owners to designate whether a registration is voluntary for all future registrations, we decline to require antenna structures previously registered to file a new registration with such a designation.⁵⁷ We agree with commenters that contend that forcing owners of previously registered antenna structures to determine which structures were registered voluntarily could be an extremely difficult task given the number of changes in structure

⁴⁹ Verizon Comments at 16.

⁵⁰ 47 C.F.R. § 17.4.

⁵¹ *Notice*, 25 FCC Rcd at 3998, para. 39.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ See 47 C.F.R. §§ 1.1307, 1.1308.

⁵⁵ NTCA Comments at 9; Hatfield & Dawson Comments at 3; Robert Moore Comments at 1; USCC Reply Comments at 3; USCC Reply Comments at 3; PCIA Ex Parte 11/22/10 at 2; Cohen, Dippell and Everist Reply Comments at 3-5; PCIA Reply Comments at 6; NAB Comments at 6-7. *Cf.* Verizon Comments at 12-13 ("the FCC should allow voluntarily filed ASRs to be withdrawn, but should not require this."). Only one commenter suggests that the Commission prohibit voluntary registration, see Patrick Worsham Comments at 9, but provides no reason for this position. From the record, we are convinced that there are substantial public interest benefits in continuing to allow voluntary registration of such structures.

⁵⁶ AT&T Comments at 6. See also NTCA Comments at 9; Robert Moore Comments at 1.

⁵⁷ However, consistent with our rules, previously registered antenna structures may be required to file a new registration in some cases (including for new constructions or alterations, and when height or location data changes significantly), at which point owners must designate whether a structure is registered voluntarily.

ownership, airport locations, and FAA flight paths that have occurred over the years.⁵⁸ Thus, for new registrations in the database, it will be clear whether the Part 17 rules apply. Although existing registrations will not be marked as voluntary, we find that the burden of requiring all existing registrations to be updated would outweigh the informational benefit of doing so.

22. We also conclude that it would not serve the public interest to apply Part 17 lighting and marking requirements to voluntarily registered antenna structures. Commenters broadly oppose applying the Part 17 rules to these antenna structures,⁵⁹ and as indicated above, we find that requiring owners to designate whether a structure is registered voluntarily will resolve any ambiguity or confusion concerning whether such requirements apply. We will also permit owners of voluntarily registered structures to withdraw their registrations, but, as we determine that continuing to allow such registrations is in the public interest, we will not require these registrations to be removed from the database or amended to indicate that they were voluntarily filed.

5. Posting of Antenna Structure Registration

23. *Background.* The Commission's rules require that an ASR number must be displayed "in a conspicuous place so that it is readily visible near the base of the antenna structure."⁶⁰ PCIA, in its petition for rulemaking, argued that it is not always possible to post this number so that it is both readily visible and near the base of the structure, and instead recommended that the Commission expressly permit posting at a compound fence or gate.⁶¹ In the *Notice*, the Commission proposed to modify its rules to require owners to display the ASR number "so that it would be visible to a member of the general public who reaches the closest publicly accessible location near the base of the antenna structure."⁶² The Commission also tentatively concluded that if two or more such locations exist (e.g., two access roads from different directions), the rules should require posting the registration number at each location.⁶³

24. *Discussion.* We amend our rules to require that owners display the ASR number so that it is visible to a member of the general public who reaches the closest publicly accessible location near the antenna structure base. In general, commenters support the proposal in the *Notice* to clarify the obligations of antenna structure owners regarding where and how to post the ASR number,⁶⁴ although some commenters encourage further guidance and clarity in the rules.⁶⁵ To address concerns raised by some commenters on the obligations of antenna structure owners where an antenna structure is within an enclosed perimeter,⁶⁶ we emphasize that posting at the closest publicly available access point may, for example, be on a perimeter fence or access gate.

⁵⁸ PCIA Comments at 11.

⁵⁹ See USCC Reply Comments at 3; PCIA Reply Comments at 6. Verizon argues that the Commission should apply only those "rules that are required to be followed for a registered structure." For example, if a structure is registered for purposes of complying with the environmental rules, only those rules should be enforced with respect to the structure. Verizon Comments at 13.

⁶⁰ 47 C.F.R. § 17.4(g).

⁶¹ PCIA Petition for Rulemaking at 14.

⁶² *Notice*, 25 FCC Rcd at 3999, para. 41.

⁶³ *Id.*

⁶⁴ NTCA Comments at 10; Patrick Worsham Comments at 9; Hatfield & Dawson Comments at 3; Verizon Comments at 14.

⁶⁵ See CTIA Comments at 12 (arguing that, for example, "the rule appears to use the terms 'ingress/egress' and 'roadway/path' interchangeably, but it is unclear whether these words have the same meaning"); PCIA Comments at 26 (encouraging the Commission to expressly address the situation where two towers, having separate registration numbers, are located in a single fenced area).

⁶⁶ CTIA Comments at 11-12; AT&T Comments at 7.

25. In general, we will not require antenna structure owners to post the ASR number at both an access point and the base of the structure. We agree with the commenters that contend that posting the ASR number at both the base and an access point in cases in which there is only one antenna structure is unnecessary.⁶⁷ However, in certain circumstances the informational benefit to the public of posting multiple signs outweighs the burden on antenna structure owners. Where more than one publicly accessible access point exists, we modify our rules to require posting at each access point location. Likewise, where a single perimeter fence surrounds multiple antenna structures, we will require that owners post the registration both at any access points, and at the base of the structure.⁶⁸ With regard to those commenters that argue that the rules should not require multiple ASR numbers to be posted at a facility,⁶⁹ we find that the burden on antenna structure owners of posting multiple ASR numbers is outweighed by the benefits to the public and to air safety of conspicuously displaying this information. As discussed in the *Notice*, it is important that FAA and Commission personnel, as well as members of the public, can quickly and easily identify a particular structure in order to report a lighting outage or other air safety hazard.⁷⁰

6. Provision of Antenna Structure Registration to Tenants

26. *Background.* The Part 17 rules require that antenna structure owners immediately provide copies of the ASR form to each tenant licensee and permittee.⁷¹ In the *Notice*, the Commission proposed to amend the rules to allow owners, as an alternative to providing a paper copy of the form, to provide tenants with the ASR number and a link to the Commission's ASR Online System website, via paper mail or e-mail.⁷²

27. *Discussion.* We modify our rules to allow owners to provide tenants the ASR number and link to the Commission's online system via mail, e-mail, or other electronic means, as an alternative to providing a paper copy of Form 854R, which all commenters support.⁷³ PCIA argues that the requirement to provide a paper copy of the ASR form serves no practical purpose, given that the general public can obtain a copy using the Commission's ASR Online System with just the ASR number.⁷⁴ We find that it is crucial that tenants have complete and timely notice of the contents of Form 854R, and, in keeping with our process reform goal of updating our rules, we find that allowing a simple, modern alternative to provide this notice is warranted.

B. Maintenance of Marking and Lighting

28. As discussed below, we revise our rules to address certain requirements that concern the maintenance of the marking and lighting on antenna structures, including inspection and maintenance of lighting, records of extinguishment or improper functioning of lights, and maintenance of painting.⁷⁵ In

⁶⁷ CTIA Comments at 11-12.

⁶⁸ This is a modified version of PCIA's proposed requirements. See PCIA Comments at 26 (recommending "that where two towers having separate ASR Numbers are located within a single fenced area, the ASR Numbers should be located at the base of each tower and on the gate").

⁶⁹ See CTIA Comments at 11-12; Verizon Comments at 14 (arguing that some antenna structures, "particularly in remote or controlled areas, may have many possible means of restricting access, [therefore] the rule should allow structure owners to determine the best location or locations" to post the registration number).

⁷⁰ *Notice*, 25 FCC Rcd at 3999, para. 41.

⁷¹ 47 C.F.R. § 17.4(f).

⁷² *Notice*, 25 FCC Rcd at 4000, para. 43.

⁷³ USCC Reply Comments at 8; PCIA Comments at 27; Patrick Worsham Comments at 9; Verizon Comments at 15.

⁷⁴ PCIA Comments at 27.

⁷⁵ *Notice*, 25 FCC Rcd at 3991-92, para. 21. The basic regime governing inspection and maintenance of required lighting is set forth in Sections 17.47, 17.48, and 17.56(a) of the rules.

particular, we amend our rules to exempt antenna structure owners with network operations center (NOC)-based monitoring systems from quarterly inspection requirements. We also require antenna structure owners to provide the FAA with updates of the status of lighting outages so that the FAA can issue accurate Notices to Airmen (NOTAMs) throughout the period that the antenna structure remains unlit. We also adopt a single standard for the repair of antenna structure lighting and automatic indicators or automatic control or alarm systems, and clarify the amount of time that antenna structure owners are required to maintain a record of observed or otherwise known extinguishments or improper functioning of structure lights. Finally, we adopt the FAA's "In Service Aviation Orange Tolerance Chart" as the benchmark for determining whether a structure needs to be cleaned or repainted.

1. Inspection of Structure Lights and Associated Control Equipment

29. *Background.* In the *Notice*, the Commission sought comment on whether to amend its rules governing antenna structure lighting monitoring and inspection obligations, or whether to eliminate these requirements altogether.⁷⁶ These rules require the owner of an antenna structure to observe the antenna structure's lights to make sure they are functioning properly at least once every 24 hours either visually or by observing an automatic properly-maintained indicator designed to register any failure of these lights or, in the alternative, to provide an automatic alarm system designed to detect lighting failures and notify the owner of the failure. Owners must also inspect, at least quarterly, all automatic or mechanical control devices, indicators, and alarm systems associated with the antenna structure lighting to ensure that they are functioning properly.⁷⁷

30. The *Notice* sought comment on whether to eliminate the inspection requirement entirely, noting that the rule may create confusion about the scope of an antenna structure owner's regulatory obligations and lead an owner to incorrectly conclude that if it performs the required inspections, it may not be subject to enforcement action if its lights fail to function. Alternatively, the Commission sought comment on whether to exempt or modify inspection obligations for antenna structures using advanced NOC-based self-monitoring technologies. The Commission has implemented a waiver process in cases where advanced monitoring systems are in place, and has granted a number of partial waivers, permitting the petitioning antenna structure owners to conduct annual rather than quarterly inspections.⁷⁸ Under this

⁷⁶ *Notice*, 25 FCC Rcd at 3993, paras. 24-25.

⁷⁷ 47 C.F.R. § 17.47.

⁷⁸ *Requests of American Tower Corporation and Global Signal, Inc., to Waive Section 17.47(b) of the Commission's Rules*, WT Docket No. 05-326, Memorandum Opinion and Order, 22 FCC Rcd 9743 (2007) (*ATC/GCI Waiver Order*); *Petition of Optasite Towers L.L.C. for Waiver of Section 17.47(b) of the Commission's Rules*, Memorandum Opinion and Order, 22 FCC Rcd 18456 (WTB 2007) (*Optasite Waiver Order*); *Crown Castle USA Inc. Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 22 FCC Rcd 21881 (WTB 2007) (*Crown Castle 2007 Waiver Order*); *Global Tower LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 23 FCC Rcd 16531 (WTB 2008) (*Global Tower Waiver Order*); *Request of Mobilitie, LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 24 FCC Rcd 11949 (WTB 2009) (*Mobilitie Waiver Order*); *TowerSentry LLC Request for Waiver of 47 C.F.R. § 17.47(b) and Joint Petition of Diamond Communications LLC and Diamond Towers LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 24 FCC Rcd 10274 (WTB 2009) (*TowerSentry/Diamond Waiver Order*); *Petition of Insite Towers LLC and TowerCo Assets LLC and TowerCo II LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 25 FCC Rcd 14542 (WTB 2010) (*Insite Waiver Order*); *Crown Castle USA Inc., AT&T Services Inc. Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 27 FCC Rcd 4313 (WTB 2012) (*Crown Castle 2012 Waiver Order*); *Joint Petition of Diamond Communications LLC, Diamond Towers LLC, Diamond Towers II LLC, and Diamond Towers III LLC for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 27 FCC Rcd 11101 (WTB 2012) (*Diamond Waiver Order*); *American Tower Corporation Request for Waiver of 47 C.F.R. § 17.47*, Memorandum Opinion and Order, 28 FCC Rcd 294 (WTB 2013) (*American Tower Waiver Order I*); *Southern Company Services, Inc. Request for Waiver of 47 C.F.R. § 17.47(b)*, Memorandum Opinion and Order, 28 FCC Rcd 300 (WTB 2013) (*Southern Waiver Order*); *SBA Communications Corporation and International Tower Lighting*, (continued....)

process, an antenna structure owner petitioning for relief must demonstrate that the monitoring system it utilizes employs self-diagnostic functions—such as alarm notification, 24-hour polling, and manual contact—and a NOC staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year, as well as a backup Operations Center that, in the event of a catastrophic failure at the primary NOC, has specific procedures for transferring the monitoring duties of the system.⁷⁹ Once WTB, under delegated authority, has had an opportunity to evaluate a request and determine that a particular monitoring system is sufficiently robust as to justify grant of a waiver, other antenna structure owners utilizing the same monitoring system may petition for relief on an expedited basis. Where an antenna structure owner seeks to utilize a new monitoring system that has not previously been approved, it may petition the Commission for relief, and waivers are generally granted where the petitioner can demonstrate that their system employs the same functionalities as ones previously granted approval. There is a pending request by American Tower Corporation (ATC) seeking a waiver of inspection requirements altogether based on its use of an advanced monitoring system.⁸⁰

31. *Discussion.* We revise our rules to exempt qualifying NOC-based monitoring systems from quarterly inspection obligations. Based on the record, we conclude that it would serve the public interest to eliminate the quarterly inspection obligation for those antenna structures using sufficiently robust monitoring systems.⁸¹ These systems employ self-diagnostic functions (such as alarm notification, 24-hour polling, and manual contact), an operations center staffed with trained personnel capable of responding to alarms 24 hours per day, 365 days per year, and a backup Operations Center that can monitor systems in the event of catastrophic failure.⁸² As the Commission has previously determined, these systems are sufficiently robust so as to make quarterly inspections unnecessary to ensure that the control devices, indicators, and alarm systems on the antenna structures are operating properly.⁸³ Further, completely eliminating the inspection requirement for qualifying systems with these features will lessen the burden on antenna structure owners without hindering aircraft navigation. We observe that quarterly or even annual inspection obligations require a tremendous expenditure of resources for structures employing these systems,⁸⁴ both in terms of dollars and person-hours spent, with no apparent corresponding benefit to aircraft safety.⁸⁵ Further, eliminating the burden of inspection requirements for

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LLC Request for Waiver of 47 C.F.R. § 17.47(b), Memorandum Opinion and Order, 29 FCC Rcd 1749 (2014) (*SBA/ITL Waiver Order*).

⁷⁹ See, e.g., *Mobilitie Waiver Order*; *TowerSentry/Diamond Waiver Order*; *Insite Waiver Order*; *Crown Castle 2012 Waiver Order*; *Diamond Waiver Order*; *SBA/ITL Waiver Order*. See also Letter from Jeffrey Steinberg, Deputy Chief, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, FCC, to Jonathan L. Yates, Esq., Nexsen Pruet, LLC, 25 FCC Rcd 5760 (2010) (*Hark Waiver Process Letter*).

⁸⁰ Request for Modification of Existing Waiver of American Tower Corporation, filed September 17, 2013 (*ATC Waiver Request*).

⁸¹ See ATC Comments at 6, 16-17; Flash Comments at 4-5; Verizon Comments at 8; API Comments at 5; Tower Sentry Comments at 1; Crown Castle Ex Parte at 2 (for 24/7 monitoring systems using a network operations center); Utilities Telecom Council Ex Parte (Nov. 9, 2011) at 1, Attachment at 6-7 (noting PCIA, Sprint Nextel, Cingular, Crown Castle, and NAB supporting exemption for advanced systems). See also Flash ATC Waiver Comments at 2-5; PCIA ATC-Waiver Comments at 2-3; NTCH ATC-Waiver Comments at 1-2; AT&T ATC-Waiver Comments at 2-3.

⁸² See, e.g., *Mobilitie Waiver Order*; *TowerSentry/Diamond Waiver Order*; *Insite Waiver Order*; *Crown Castle 2012 Waiver Order*; *Diamond Waiver Order*; *SBA/ITL Waiver Order*. See also Letter from Jeffrey Steinberg, Deputy Chief, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, FCC, to Jonathan L. Yates, Esq., Nexsen Pruet, LLC, 25 FCC Rcd 5760 (2010) (*Hark Waiver Process Letter*).

⁸³ See, e.g., *ATC/GCI Waiver Order*; *Optasite Waiver Order*.

⁸⁴ NTCA Comments at 7; Verizon Comments at 8.

⁸⁵ See *infra*, para. 32. For towers not employing these systems, the 17.47(b) inspections are still required.

antenna structure owners that use advanced technologies may encourage other owners to adopt state-of-the-art systems.

32. We therefore conclude that, on balance, the public interest would be served by adopting a procedure to exempt qualifying antenna structure owners from quarterly inspection requirements. In doing so, we emphasize that the Commission's top priority is to ensure that the lighting required under the ASR remains on or, if required lights become extinguished, that the structure owner promptly requests a NOTAM.⁸⁶ We remind antenna structure owners that if these requirements are not met, they may be subject to enforcement action, regardless of how robust their monitoring systems may be.

33. As discussed above, this exemption affects three specific groups of antenna structure owners: (1) those that were previously granted waivers for their antenna structures monitored by approved systems; (2) those that employ approved systems but have not yet sought approval from the Commission; and (3) those that employ new systems for which no antenna structure owner has been granted waiver relief by the Commission. We discuss the application of our decision with respect to each of these groups in turn.

34. Antenna structure owners that were previously granted a waiver for their antenna structures monitored by qualifying systems are exempt from all inspection obligations, as long as they continue to meet the advanced monitoring obligations to which they have already certified.⁸⁷ Other antenna structure owners that have not yet sought a waiver but use an advanced monitoring system that has previously been approved by the Commission may also certify that they are eligible for an exemption from the inspection obligations with respect to any antenna structure utilizing a NOC-based system. Specifically, we will modify our ASR system, as Verizon suggests,⁸⁸ to allow structure owners to demonstrate that they are eligible for an exemption. Structure owners must provide a certification and supporting documentation demonstrating that they use an advanced monitoring system that has been previously approved by the Commission, and that their antenna structures are monitored under the same process described in the order granting a waiver for that system. In addition, to qualify for the exemption the antenna structure owners must certify that they maintain a facility to receive notifications of failures from the advanced monitoring system, enabling the owners to carry out their responsibilities under Part 17 of our rules.⁸⁹ Finally, antenna structure owners that employ new systems that have not yet been certified by the Commission may continue to petition WTB. Such requests will be evaluated under the standards that have already been established.

35. We decline to eliminate inspection obligations in their entirety. Although some commenters support the elimination of all inspection obligations,⁹⁰ we find that there are important public

⁸⁶ Antenna structure owners "shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Administration any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes." 47 C.F.R. § 17.48(a). See FAA Obstruction Marking and Lighting Circular, ch. 2, para. 23 § b, at 3.

⁸⁷ As noted above, ATC filed a waiver request on September 17, 2013, seeking a complete waiver of the Section 17.47(b) inspection requirements, which would eliminate the annual inspections still required pursuant to its original waiver, based on its use of its ATC Monitoring System, which had previously supported ATC's partial waiver grant for its towers monitored by that system. The issue raised in the ATC petition is addressed in this Order. Accordingly, we are dismissing ATC's petition without prejudice.

⁸⁸ Verizon Comments at 8-9.

⁸⁹ Until this modification is implemented, tower owners may still petition for exemption using the expedited process already established in the orders granting the waivers.

⁹⁰ Several commenters support this proposal. See NAB Comments at 4; PCIA Comments at 19; Verizon Comments at 8; AT&T Comments at 5; NAB Reply Comments at 5; PCIA Reply Comments at 9; USCC Reply Comments at 4- (continued....)

safety benefits associated with periodic inspection of the control devices, indicators, and alarm systems associated with the lighting for antenna structures that do not employ advanced monitoring systems. We conclude that the quarterly inspection requirement provides a necessary layer of required diligence to protect against lighting failures going unnoticed in cases where antenna structure owners are maintaining structures with older monitoring systems. In the absence of an advanced system that continually monitors lighting and system malfunctions, we find that quarterly inspections are essential to public safety because they help to ensure the reliable detection of lighting malfunctions. We therefore decline to delete Section 17.47 in its entirety.⁹¹

36. We further decline to require registered structures to install monitoring systems as proposed by AFCCE.⁹² We find that such a requirement would be unnecessary because the new exemption will provide adequate incentives for antenna structure owners to adopt technologically advanced systems,⁹³ and because the use of quarterly inspections should suffice to ensure that the public safety will be adequately protected for those owners that do not employ these advanced systems. We also decline to adopt a third-party certification process for waiver requests.⁹⁴ We do not anticipate that the number of new system requests would support the development of a third-party certification process, and we therefore find that it would serve the public interest to continue with our already established waiver/exemption process.⁹⁵ Thus WTB, under delegated authority, will continue to evaluate petitions for exemption of any new NOC-based systems using the same process it used in granting previous waiver requests.

2. Notification of Extinguishment or Improper Functioning of Lights

37. *Background.* Section 17.48(a) requires that antenna structure owners promptly report outages of top steady burning lights or flashing antenna structure lights to the FAA.⁹⁶ Upon receipt of the outage notification, the FAA will issue a NOTAM, which notifies aircraft of the outage. However, the FAA cancels all such notices within 15 days.⁹⁷ Currently, the Commission's rules do not require antenna

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5 (for complete elimination Section 17.47, conditioned on the tower owner having the responsibility to maintain the appropriate lighting for its towers and to promptly report and then repair any outage); PCIA Ex Parte at 2.

⁹¹ We also remind antenna structure owners that they must keep the structure properly lit, or, failing that, promptly request a NOTAM; an antenna structure owner cannot avoid an enforcement action merely through rote compliance with the inspection requirements. Antenna structure owners "shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Administration any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes." 47 C.F.R. § 17.48(a). See FAA Obstruction Marking and Lighting Circular, ch. 2, para. 23 § b, at 3.

⁹² AFCCE Comments at 5.

⁹³ See also Flash Comments at 4-5 ("A complete elimination of the inspection requirement for qualifying tower structures would also increase the incentive for adoption of a NOC-Based System, with aeronautical safety the ultimate beneficiary.").

⁹⁴ Flash Comments at 6-7.

⁹⁵ PCIA opposes certain standards of the Network Operations Center (PCIA Comments at 8-9), while Tower Sentry suggests specific criteria for the exemption (Tower Sentry Comments at 6-7).

⁹⁶ Antenna structure owners "shall report immediately by telephone or telegraph to the nearest Flight Service Station or office of the Federal Aviation Administration any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes." 47 C.F.R. § 17.48(a). See FAA Obstruction and Lighting Circular, ch. 2, para. 23 § b, at 3.

⁹⁷ See Obstruction Marking and Lighting Circular, ch. 2, para. 23 n. 2, at 3 ("After 15 days, the NOTAM is automatically deleted from the system.").

structure owners to provide any notification to the FAA regarding the status of repairs other than the initial outage report and the resumption of normal operation.⁹⁸ Thus, if the repairs to an antenna structure's lights require more than 15 days, the FAA may not have any record of the outage from that 15th day to the resumption of normal operation. The *Notice* sought comment on proposed modifications to the process by which lighting outages are reported to the FAA. Specifically, the Commission proposed requiring antenna structure owners to contact the FAA to extend the lighting outage date after 15 days, together with an updated estimate of the return-to-service date.⁹⁹ In addition, the reporting requirement of Section 17.48(a) requires that the FAA be notified "by telephone or telegraph."¹⁰⁰ The Commission tentatively concluded that this rule should be updated to require notification by means acceptable to the FAA,¹⁰¹ which currently is by a nationwide toll-free telephone number for reporting lighting outages.¹⁰²

38. *Discussion.* We revise our rules to require antenna structure owners to provide the FAA with regular updates on the status of their repairs of lighting outages so that the FAA can maintain notifications to aircraft throughout the entire period of time the antenna structure remains unlit. Consistent with the current FAA requirements, if a lighting outage cannot be repaired within the FAA's original NOTAM period, we require the antenna structure owner to notify the FAA of that fact. In addition, the antenna structure owner must provide any needed updates to its estimated return-to-service date to the FAA. Moreover, an antenna structure owner must continue to provide these updates to the FAA every NOTAM period until its lights are repaired. We find it necessary to ensure that a NOTAM is reissued every NOTAM period so long as any outage continues,¹⁰³ and that a current estimate of the return-to-service date is included in each notification,¹⁰⁴ to clarify the scope of the malfunction and help focus the repair process toward a fixed repair date.¹⁰⁵ We find that the limited additional burden on antenna structure owners is insignificant compared to the need to have regularly updated and accurate NOTAMs, as pilots rely on the NOTAMs to help ensure air safety.

39. With regard to the reporting requirement of Section 17.48(a), which provides that the FAA shall be notified "by telephone or telegraph," we eliminate the requirement for using a specific means of notification (which currently contains the outdated reference to "telegraph") and require instead notification by means acceptable to the FAA. The FAA currently requires notification by a nationwide toll-free telephone number for reporting lighting outages. This change serves the public interest because it harmonizes our reporting requirement with the FAA's reporting requirements and it clarifies the rule by eliminating a previously specified option that is no longer viable.

⁹⁸ 47 C.F.R. § 17.48(a).

⁹⁹ *Notice*, 25 FCC Rcd at 3994, para. 26.

¹⁰⁰ 47 C.F.R. § 17.48(a).

¹⁰¹ *Notice*, 25 FCC Rcd at 3994, para. 26.

¹⁰² See *Light Outage Reporting*, FAA, <https://oeaaa.faa.gov/oeaaa/external/content/lightOutageReporting.jsp> (last visited July 10, 2014). The telephone number to report outages to the FAA is 877-487-6867.

¹⁰³ See API Comments at 5; Verizon Comments at 9; Flash Comments at 7 (renew until completely fixed); USCC Reply Comments at 5.

¹⁰⁴ See Flash Comments at 7; Patrick Worsham Comments at 6 (recommending that FCC or FAA should establish a procedure for reporting on the process of repairs).

¹⁰⁵ As explained in more detail below, Section 17.48(b) as revised in this order requires tower owners to repair lighting outages "as soon as practicable," and that tower owners that cannot demonstrate that their efforts to make such repairs are sufficient to meet that standard may face forfeiture liability. In any such enforcement proceeding, the Commission may consider the number of times that a tower owner has extended its return-to-service estimate as a relevant factor in determining whether a tower owner has met the "as soon as practicable" standard, together with any explanation for those extensions provided by the tower owner in the context of the enforcement proceeding.

3. Lighting Malfunction Repair Timelines

40. *Background.* The Commission requested comment on whether its rules should include specific timeframes for replacing or repairing extinguished lights notwithstanding the issuance of a NOTAM, and if so, what those timeframes should be.¹⁰⁶ Section 17.48(b) requires the repair of an extinguished or improperly functioning steady burning side intermediate light “as soon as possible.”¹⁰⁷ In contrast, the general standard for repairing and restoring lights, automatic indicators, and control or alarm systems in Section 17.56(a) requires repairs to be made “as soon as practicable.”¹⁰⁸ The Commission tentatively concluded that these provisions should be deleted to avoid confusion with regard to repair timelines, as well as whether diligent efforts to correct lighting malfunctions obviate the need for a NOTAM.¹⁰⁹ However, the Commission noted that the FAA does not accept notifications or issue NOTAMs for extinguished steady burning side intermediate lights, and that our rules would contain no requirements relating to maintenance of these lights in the absence of Section 17.48(b). The Commission therefore sought comment on whether it should implement a time limitation for lighting system repairs, and if so, how such a requirement should be implemented.¹¹⁰

41. *Discussion.* We revise our rules by adopting a single standard for the repair of antenna structure lighting, automatic indicators, automatic control systems, and alarm systems.¹¹¹ Specifically, we revise our rules to provide that all of the repairs addressed in Sections 17.48(b) and 17.56(a) (i.e., antenna structure lighting repairs, as well as repairs to automatic indicators or automatic control or alarm systems) be made “as soon as practicable.” This change addresses the inconsistency between these two rules, given that Section 17.48(b) requires that antenna structure lighting repairs be made “as soon as possible,”¹¹² while Section 17.56(a) requires that repairs to automatic indicators or automatic control or alarm systems be made “as soon as practicable.”¹¹³ Commenters generally support this revision to our rules,¹¹⁴ and we find that this change serves the public interest because a standard that requires antenna structure owners to make such repairs “as soon as practicable” will provide them with greater flexibility to fulfill their obligation to complete repairs to lighting system malfunctions in a timely fashion. Antenna structure owners that cannot demonstrate that their efforts to make such repairs are sufficient to meet that standard may face forfeiture liability. In determining whether an antenna structure owner has met the “as soon as practicable” standard in an enforcement proceeding, the Commission may consider whether the owner has exercised due diligence and has made a good faith effort to repair the outage. Further, antenna

¹⁰⁶ Notice, 25 FCC Rcd at 3994, para. 27.

¹⁰⁷ 47 C.F.R. § 17.48(b).

¹⁰⁸ 47 C.F.R. § 17.56(a).

¹⁰⁹ Notice, 25 FCC Rcd at 3994, para. 27.

¹¹⁰ *Id.*

¹¹¹ Section 17.48(b) provides that “[a]n extinguishment or improper functioning of a steady burning side intermediate light or lights, shall be corrected as soon as possible, but notification to the FAA of such extinguishment or improper functioning is not required.” 47 C.F.R. § 17.48(b). Section 17.56(a) provides that “[r]eplacing or repairing of lights, automatic indicators or automatic control or alarm systems shall be accomplished as soon as practicable.” 47 C.F.R. § 17.56(a).

¹¹² 47 C.F.R. § 17.48(b).

¹¹³ 47 C.F.R. § 17.56(a).

¹¹⁴ See CTIA Comments at 9-10 n.15; PCIA Ex Parte at 2. See also American Petroleum Institute Comments at 5; Comments of Henry Ruhwiedel at 1; NAB Reply Comments at 1-2. Although not specifically rejecting the harmonization of Sections 17.48(b) and 17.56(a), one commenter prefers deleting both sections altogether. See ATC Comments at 7. We discuss deleting Sections 17.48(b) and 17.56(a) in paragraph 43, *infra*.

structure owners may be subject to enforcement action if they are unable to provide a reasonable explanation of their efforts to make these repairs as soon as practicable.¹¹⁵

42. We decline to impose specific timeframes for replacing or repairing extinguished lights. We find that antenna structure lighting repair does not lend itself to specific repair timelines due in part to the widely varied circumstances and complications that can make certain repairs too difficult or dangerous if a fixed schedule is required. Many of these variables are often beyond the control of the antenna structure owner, because such factors as delivery of replacement equipment, difficulty of repair, and limited structure access due to the location or weather conditions can make the timing of certain repairs difficult to predict.¹¹⁶ Most commenters do not support the imposition of specific repair timelines,¹¹⁷ preferring instead rules that provide antenna structure owners the flexibility to make their repairs in a reasonable period of time.¹¹⁸ We find that declining to adopt fixed repair timelines best meets our goals of ensuring timely repairs to lighting malfunctions and consistent enforcement of our rules, without imposing unreasonable burdens on antenna structure owners. In the absence of specific timeframes, we find that it serves the public interest to require an antenna structure owner to replace or repair extinguished lights as soon as practicable, as discussed above. Our revised rules provide a general, consistent standard that will help ensure that those tasked with timely repairs may undertake them safely and efficiently under widely differing circumstances while still preserving aviation safety.

43. We decline to delete Sections 17.48(b) and 17.56(a), which would eliminate the requirements providing for the repair of antenna structure lighting, as well as automatic indicators or automatic control or alarm systems. We find that it serves the public interest to retain these rules while revising them to ensure that we provide antenna structure owners with clear guidance and a consistent standard to ensure timely repairs to antenna structure lighting malfunctions. Moreover, because the FAA does not accept notifications or issue NOTAMs for extinguished steady burning side intermediate lights, which are required in many FAA lighting styles, in absence of these rules, we would have no requirements applicable to antenna structure owners in connection with their obligations to repair and maintain these lights.

44. We also decline to require a second lighting system, for antenna structures in very remote locations, which is consistent with our requirements in other locations.¹¹⁹ We find that adopting a special rule for remote locations to require a second lighting system for structures in those areas would impose additional costs on antenna structure owners that we find to be, on balance, unnecessary, given the effectiveness of other rules requiring timely lighting repair. We find that our rules requiring antenna structure owners to complete repairs of lighting malfunctions on their antenna structures in a timely manner helps to ensure aviation safety and obviates the need for secondary systems.

4. Recordkeeping Requirements

45. *Background.* Section 17.49 requires antenna structure owners to maintain a record of observed or otherwise known extinguishments or improper functioning of structure lights, but does not

¹¹⁵ See Union Broadcasting, Inc., *Notice of Apparent Liability for Forfeiture*, 28 FCC Rcd 7061 (EB 2013) (Union Broadcasting, Inc. found to have willfully and repeatedly violated Section 303(q) of the Communications Act of 1934, as amended, and Section 17.56(a) of the Commission's rules by failing to repair the lighting on an antenna structure as soon as practicable, supporting a conclusion of apparent liability for a forfeiture in the amount of fifteen thousand dollars (\$15,000)).

¹¹⁶ See NAB Comments at 2-4; NTCA Comments at 7; CTIA Comments at ii, 2; USCC Reply Comments at 5.

¹¹⁷ See NAB Comments at 2-3; NTCA Comments at 7; CTIA Comments at ii, 2, 8; API Comments at 5; Patrick Worsham Comments at 6; USCC Reply Comments at 5.

¹¹⁸ See NTCA Comments at 7; CTIA Comments at 9; API Comments at 5; Comments of Henry Ruhwiedel at 1; NAB Reply Comments at 1-2; Utilities Telecom Council Ex Parte Presentation at 7.

¹¹⁹ Henry Ruhwiedel Comments at 1.

specify the time period for which such records must be maintained.¹²⁰ In the *Notice*, the Commission tentatively concluded to amend this provision by adding a requirement to maintain such records for two years and an obligation to provide the records to the Commission upon request. The Commission also sought comment on whether it should eliminate the recordkeeping requirement entirely.¹²¹

46. *Discussion.* We revise our rules to require antenna structure owners to maintain a record of observed or otherwise known extinguishments or improper functioning of structure lights for two years, and to provide such records to the Commission upon request. We find that limiting the retention time period to two years serves the public interest because it will lessen the burden on antenna structure owners without hindering the Commission's ability to monitor an antenna structure owner's compliance record. Although one commenter prefers a one-year retention period,¹²² all other commenters that address this revision to our rules support it,¹²³ as antenna structure owners will no longer have to retain the records indefinitely, thereby saving valuable resources.¹²⁴ We find that the two year retention period and the obligation to submit such records to the Commission upon request provide a practical balance between the Commission's need to preserve a record of compliance and costs to industry of retaining and submitting these records.

5. Maintenance of Painting

47. *Background.* Section 17.50 of the rules specifies that antenna structures requiring painting under Part 17 shall be cleaned or repainted as often as necessary to maintain good visibility.¹²⁵ In the *Notice*, the Commission sought comment on options for clarifying the rule, as the rule itself provides an ambiguous standard for measuring good visibility.¹²⁶ Specifically, the Commission requested comment on whether to amend Section 17.50 to specifically provide for use of the FAA's "In-Service Aviation Orange Tolerance Chart" to determine whether a structure needs to be cleaned or repainted.¹²⁷ If so amended, the Commission further sought comment on whether a determination as to whether a structure needs to be repainted or cleaned should be assessed by comparing it to the FAA's "In-Service Aviation Orange Tolerance Chart" at the base of the antenna structure and/or at a distance of one quarter mile.¹²⁸ The FAA's Advisory Circular on Obstruction Marking and Lighting indicates that "the color should be sampled on the upper half of the structure, since weathering is greater there."¹²⁹

¹²⁰ 47 C.F.R. § 17.49.

¹²¹ *Notice*, 25 FCC Rcd at 3996, para. 32.

¹²² American Petroleum Institute Comments at 6. ("API supports the codification of a retention period and record production requirement but recommends that the retention period be limited to one year from the date that the lighting extinguishment or improper functioning structure lights was corrected.")

¹²³ See NTCA Comments at 7; Patrick Worsham Comments at 7.

¹²⁴ NTCA Comments at 7 ("Setting a record retention period of two years is a sound business practice which will provide rural antenna structure owners additional predictability regarding their recordkeeping duties. Furthermore, the burden to small rural telco providers who must keep records of tower lighting will be minimal.").

¹²⁵ 47 C.F.R. § 17.50.

¹²⁶ *Notice*, 25 FCC Rcd at 3996-97, para. 34.

¹²⁷ We note that Section 17.53 of the rules details further the type of paint to be used. 47 C.F.R. § 17.53.

¹²⁸ *Notice*, 25 FCC Rcd at 3997, para. 35.

¹²⁹ FAA Obstruction Marking and Lighting Circular, ch. 3, para. 32 § a, at 5. The FAA's "In-Service Aviation Orange Color Tolerance Charts" are available from private suppliers for determining when repainting is required. These charts are based upon the color requirements contained in the National Bureau of Standards Report NBSIR 75-663, Color Requirements for the Marking of Obstructions, by R.L. Booker.

48. *Discussion.* We revise our rules to adopt the FAA’s “In-Service Aviation Orange Tolerance Chart” as the benchmark for determining whether a structure needs to be cleaned or repainted. In adopting this revision to our rules, we note that most commenters support the adoption of the FAA’s “In-Service Aviation Orange Tolerance Chart,”¹³⁰ and antenna structure owners will now have a standard measurement tool to aid them in deciding when it is necessary to clean or repaint their structures to maintain good visibility pursuant to Section 17.50 of the Commission’s rules. Antenna structure owners must use the chart in a manner consistent with FAA guidelines, which currently provide that the color should be sampled on the upper half of the structure.¹³¹ We agree with the FAA that the top half of the structure, and not the base of the structure as some commenters have suggested,¹³² should be the reference point to which the color chart is compared. We note that visibility of the top half of the structure is the most important for safe air navigation and that the color of the top half of the structure is likely to fade faster than other parts of the structure due to weather conditions.

49. We decline to prescribe a particular distance from which the chart is to be compared with the top half of the structure. Commenters advocate making this comparison from a number of specific locations, including at the base, at the top half of the structure,¹³³ or at a distance of one-quarter mile from the structure.¹³⁴ Although placing the chart directly over the surface of a portion of the top half of the structure would provide the best results, we recognize that measurement directly over the surface may not always be practical due to weather or access limitations.

50. We also decline to compel painting of antenna structures every ten years.¹³⁵ We find that structure owners are best able to determine how to safely and efficiently comply with the antenna structure maintenance requirements of our rules, and it is unnecessary to prescribe a fixed, ten-year painting mandate for this purpose. A rigid repainting requirement would not materially benefit antenna structure conspicuity and aviation safety beyond the requirement to clean and repaint “as necessary to maintain good visibility.”¹³⁶ We find that the use of the FAA’s “In-Service Aviation Orange Tolerance Chart,” in conjunction with our current cleaning and repainting standards, is the best way to promote aircraft safety, provide clear guidance to antenna structure owners, and ensure consistent enforcement.

C. Other Process Reform Matters

1. Clarifying Definitions

51. *Background.* An “antenna structure” is defined in the rules as including “the radiating and/or receive system, its supporting structures and any appurtenances mounted thereon.”¹³⁷ The rules also define an “antenna structure owner” as the individual or entity vested with ownership, equitable ownership, dominion, or title to the antenna structure.¹³⁸ In the 2004 Biennial Review proceeding, PCIA

¹³⁰ See NTCA Comments at 8; Patrick Worsham Comments at 7; Verizon Comments at 10-11; AFCCE Comments at 5; AT&T Comments at 5; ATC Comments at 20; USCC Reply Comments at 6; PCIA Ex Parte at 2; Crown Castle Ex Parte at 2 (supporting Commission’s proposed approach to clarify the assessment of tower paint maintenance compliance).

¹³¹ FAA Obstruction Marking and Lighting Circular, ch. 3, para. 32 § a, at 5.

¹³² NTCA Comments at 8; Patrick Worsham Comments at 7; AT&T Comments at 5; ATC Comments at 20; USCC Reply Comments at 6; PCIA Ex Parte at 2.

¹³³ Verizon Comments at 10-11.

¹³⁴ Verizon Comments at 10-11; ATC Comments at 20.

¹³⁵ See Henry Ruhwiedel Comments at 1.

¹³⁶ 47 C.F.R. § 17.50.

¹³⁷ 47 C.F.R. § 17.2(a).

¹³⁸ 47 C.F.R. § 17.2(c).

and other commenters claimed that these definitions and associated compliance obligations of infrastructure providers and licensed carriers were ambiguous, and urged the Commission to revise the definitions to eliminate such ambiguities.¹³⁹ In the *Notice*, the Commission proposed to clarify the definition of “antenna structure owner” to be the owner of “the underlying structure that supports or is intended to support antennas and other appurtenances” and not a tenant.¹⁴⁰ The Commission also proposed amending the rules to clarify when a structure becomes and ceases to be an “antenna structure,” noting that the Communications Act requires an owner to maintain painting and lighting until the antenna structure is dismantled.¹⁴¹ In particular, the Commission proposed to clarify that a structure becomes an “antenna structure” under the Part 17 rules from the time construction begins, regardless of whether the structure is immediately used for its intended purpose, and continues to be an “antenna structure” until such time as it is dismantled, regardless of whether it continues to be used to transmit or receive radio energy.¹⁴²

52. *Discussion.* Consistent with the proposal in the *Notice*, we revise our definition of “antenna structure owner” to include the owner of the underlying structure that supports antennas, and our definition of “antenna structure” to likewise include these underlying structures. We note that all commenters support these changes,¹⁴³ and the revisions clarify that the Part 17 rules apply to the actual owner of the structure and not a tenant. We also note that some structures are themselves the radiating antenna used to transmit radio energy, such as towers that broadcast AM radio frequencies. To clarify that our new definitions are not meant to exclude such structures, we adopt a modification to the definitions proposed in the *Notice* so as to specifically include them.¹⁴⁴

53. In addition, we clarify that a structure is considered an “antenna structure” from the start of construction through dismantlement, regardless of when it begins and ceases to transmit radio energy. Commenters generally support this clarification, and we agree that the scope of the rule does not include the construction of a building on which an antenna may be situated, but refers to the construction of the antenna structure itself.¹⁴⁵ We also emphasize that an antenna structure owner’s obligations do not cease until the structure is dismantled. The record supports clarifying who bears responsibility for compliance with the rules, and when a structure is within the purview of the Part 17 rules, and we find that doing so will help promote air safety and serve the public interest.

54. Some commenters express concern that this proposal could be read to encompass Distributed Antenna Systems (DAS), and urge that we make clear that such systems are exempt from the

¹³⁹ Comments of PCIA—The Wireless Infrastructure Association, WT Docket No. 04-180, at 2 (PCIA 2004 Biennial Review Comments); Reply Comments of Cingular Wireless, LLC, WT Docket No. 04-180, at 4-5 (Cingular 2004 Biennial Review Reply Comments); Reply Comments of CTIA—The Wireless Association, WT Docket No. 04-180, at 2 (CTIA 2004 Biennial Review Reply Comments).

¹⁴⁰ *Notice*, 25 FCC Rcd at 3998, para. 37.

¹⁴¹ *Id.* at 3998, para. 38; 47 U.S.C. § 303(q) (“In the event that the tower ceases to be licensed by the Commission for the transmission of radio energy, the owner of the tower shall maintain the prescribed painting and/or illumination of such tower until it is dismantled . . .”).

¹⁴² *Notice*, 25 FCC Rcd at 3998, para. 38.

¹⁴³ NAB Comments at 5; NTCA Comments at 9; Patrick Worsham Comments at 8.

¹⁴⁴ We also note that the definition of “antenna structure owner” applies to owners of “antenna structures,” not other types of structures that might support antennas, such as buildings or bridges. *See, e.g.*, PCIA Comments at 23-24.

¹⁴⁵ *See* Patrick Worsham Comments at 8; Verizon Comments at 11 (agreeing with “rule change except for structures not primarily built for the purposes of supporting radio equipment (e.g. buildings, water tanks, utility poles)”; USCC Reply Comments at 6-7.

Part 17 review.¹⁴⁶ DAS, as well as small cells and other new wireless technologies, use large numbers of smaller antennas, deployed at lower heights and supported by compact radio equipment to provide broadband services. The benefit of these technologies is that they can be deployed on utility poles, street lamps, water towers, rooftops, or inside buildings to fill in coverage gaps. We decline to expressly exempt such systems from our modification to the Part 17 definitions. We do not anticipate that the Part 17 rules will ordinarily affect such systems because registration is generally only required for structures of sufficient height to affect air safety, and such heights are significantly greater than that of most DAS antennas.¹⁴⁷

2. Streamlining and Removing Unnecessary Rules

55. *Background.* The Part 17 rules currently set forth which antenna structures require notification to the FAA,¹⁴⁸ and specify certain exemptions from this notification requirement.¹⁴⁹ These rules essentially restate the applicable FAA rules.¹⁵⁰ In the *Notice*, the Commission proposed to delete these sections and insert cross-references to relevant FAA rules. The Commission also proposed to delete a requirement that applicants proposing new or modified facilities located on land under U.S. Government jurisdiction include a statement indicating that facilities will be so located, and that applicants shall comply with another section of the Commission's rules that was removed in 1977.¹⁵¹ The *Notice* tentatively concluded that this section "was intended to promote compliance with procedures that no longer exist," and as a result is now unnecessary.¹⁵² In addition, the Commission proposed to delete rules that set forth specific lighting and light maintenance requirements as unnecessary and duplicative, since these requirements are specified in the FAA "no hazard" determination and study for each structure.¹⁵³

56. *Discussion.* While the majority of commenters support amending our rules to delete the criteria for when notification to the FAA is required, and the specified exemptions from this notification requirement, we decline to adopt this proposal from the *Notice*. PCIA supports cross-referencing in general, but only for the FAA's physical obstruction rules, due to concerns that the FAA may expand the scope of its notification requirements.¹⁵⁴ The FAA has previously considered whether to broaden its notification requirements to include construction of new antenna support structures in certain frequency bands.¹⁵⁵ In particular, the FAA remains concerned about the possible threat of FM broadcast service transmissions to aircraft navigation and communication facilities.¹⁵⁶ We note that the FAA has not issued a final decision on its proposal to expand its rules to require notice for antenna structures operating on the

¹⁴⁶ Crown Castle Ex Parte at 1-2; PCIA Ex Parte at 2; USCC Reply Comments at 6-7 (supporting the proposal in general but urging the Commission to "make clear that its jurisdiction only extends to antenna structures, and not to the buildings, bridges, etc. which may have antenna structures mounted on them").

¹⁴⁷ See Letter from Michael D. Saperstein, Jr., Director of Government Affairs, PCIA—The Wireless Infrastructure Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, Attachment at 3 (July 27, 2010) (DAS Forum Ex Parte).

¹⁴⁸ 47 C.F.R. § 17.7.

¹⁴⁹ 47 C.F.R. § 17.14.

¹⁵⁰ See 14 C.F.R. § 77.9.

¹⁵¹ See 47 C.F.R. § 17.58.

¹⁵² *Notice*, 25 FCC Rcd at 4001, para. 46.

¹⁵³ *Id.* at 3995, para. 30. See 47 C.F.R. §§ 17.45, 17.51, 17.56(b).

¹⁵⁴ PCIA Comments at 4.

¹⁵⁵ *Safe, Efficient Use and Preservation of the Navigable Airspace*, Docket No. FAA-2006-25002, Final Rule, 75 Fed. Reg. 42296, 42297 (2010).

¹⁵⁶ *Id.*

FM broadcast frequencies.¹⁵⁷ We will continue to work with the FAA and the National Telecommunications and Information Administration (NTIA) to address concerns about the effect of FM broadcast transmissions on air safety and communications systems.

57. Nevertheless, we decline to cross-reference FAA rules that may expand the scope of our rules in the future. Instead, we adopt modifications to Part 17 to clarify that antenna structures must be registered only when notice to the FAA is required due to physical obstruction (as for structures of sufficient height, or proximity to airports). We retain the notification criteria in Section 17.7, but update these to reflect the FAA's current notification criteria and exemptions.¹⁵⁸ We agree with commenters that these changes will provide clarity and prevent future FAA rulemakings from expanding the scope of our rules without providing parties the opportunity for public comment.¹⁵⁹ As noted above, we delegate authority to WTB to update the Part 17 rules to comport with future FAA rule changes regarding what tower constructions or alternations require FAA notification after an opportunity for notice and comment. This delegated authority will help ensure that our rules can be quickly updated to remain in harmony with the FAA's notification requirement, while providing interested parties an opportunity to comment on any changes before they take effect.

58. We do, however, delete from our rules the notice requirement for applicants proposing new or modified facilities on federal land in its entirety, a proposal supported by all commenters addressing this issue.¹⁶⁰ The procedures that this rule references were abolished in 1977 at the request of the agencies affected, and we conclude that there is no reason to retain this notification requirement. Finally, we delete the rules regarding exhibiting and maintaining lights as unnecessary and potentially confusing, given that these requirements are already contained in each antenna structure's "no hazard" determination.¹⁶¹ Commenters generally support these deletions,¹⁶² which will provide clarity by removing requirements that could conflict with the rule changes adopted above.

3. Ministerial Rule Changes

59. We make the following ministerial edits to conform with the other rule amendments adopted in this Order: we add a heading to the definition of "antenna farm area" and change "antenna towers" to "antenna structures" in Section 17.2(b); we delete an outdated provision in Section 17.4(a)(2)

¹⁵⁷ *Id.* ("[T]he proposals on FM broadcast service transmissions in the 88.0-107.9 MHz frequency band remain pending. The FAA will address the comments filed in this docket about the proposed frequency notice requirements and proposed EMI obstruction standards when a formal and collaborative decision is announced.").

¹⁵⁸ In updating our rules in accordance with current FAA regulations, we add to Section 17.7(d)(4) that notification to the FAA is required for any construction or alteration on an airport or heliport with at least one FAA-approved instrument approach procedure, and we remove the requirement previously contained in Section 17.14(a) that an applicant claiming the particular exemption from FAA notification described in paragraph (a) would need to submit a statement to the FCC explaining the basis in detail.

¹⁵⁹ See PCIA Comments at 4; CTIA Comments at 5; AT&T Comments at 4-5; see also Comments of Hammet & Edison, Inc. at 3-4 (filed July 19, 2010).

¹⁶⁰ 47 C.F.R. § 17.58. See PCIA Comments at 23 n. 71; Verizon Comments at 16; Hatfield & Dawson Comments at 4; Patrick Worsham Comments at 10.

¹⁶¹ See 47 C.F.R. §§ 17.45, 17.51, 17.56(b).

¹⁶² See PCIA Comments at 23; ATC Comments at 16, 21. One commenter urges us to harmonize Section 17.51 with our lighting malfunction notification requirements and to provide an exemption for when a NOTAM has been sought. See Patrick Worsham Comments at 7. However, in light of the clarifications surrounding NOTAMs adopted above, see *supra* III.B.2, we believe that deleting this provision rather than adding an exception will provide greater clarity regarding the obligations of antenna structure owners.

requiring certain registrations by July 1, 1998; and we add a cross-reference to Section 17.4(f) in Section 17.4(e).¹⁶³

IV. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Analysis

60. With respect to this Report and Order, a Final Regulatory Flexibility Analysis (FRFA) is contained in Appendix C. As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared a FRFA of the expected impact on small entities of the requirements adopted in this Report and Order. The Commission will send a copy of the Report and Order, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

B. Paperwork Reduction Act

61. This document contains revised information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the modified information collection requirements contained in this proceeding. In addition, we note that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees.

62. In this present document, we have assessed the effects of eliminating and updating particular provisions of the Commission's Part 17 rules governing the construction, marking, and lighting of antenna structures. Specifically, we update the means by which antenna structure owners are required to provide tenant licensees a copy of the antenna structure registration, how registration numbers are displayed on or around the antenna structure and, for improper functioning antenna structure lights, how the FAA is notified and for how long the records are retained. We also update requirements regarding when the FCC should be notified of certain events, what changes in structure height or location require a new Antenna Structure Registration, require a notation when structures are registered voluntarily, and provide a standardized means for registrants to certify that they qualify for the exemption from quarterly inspection requirements. We find that these updates improve efficiency, reduce regulatory burdens, and enhance compliance with antenna structure painting and lighting requirements, while continuing to ensure aircraft safety. In addition, we have described impacts that might affect small business, which includes most businesses with fewer than 25 employees, in the FRFA attached to this Report and Order as Appendix C.

C. Congressional Review Act

63. The Commission will send a copy of this Report and Order to Congress and the Government Accountability Office pursuant to the Congressional Review Act.¹⁶⁴

V. ORDERING CLAUSES

64. ACCORDINGLY, IT IS ORDERED, pursuant to sections 4(i), 4(j), 11 and 303(q) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i)-(j), 161, 303(q), that this Report and Order IS HEREBY ADOPTED.

65. IT IS FURTHER ORDERED that Parts 0, 1, and 17 of the Commission's Rules, 47 C.F.R. sections 0.331, 1.61, 17.1, 17.2, 17.4, 17.6, 17.7, 17.14, 17.17, 17.21, 17.22, 17.23, 17.24, 17.45, 17.47, 17.48, 17.49, 17.50, 17.51, 17.56, 17.57, and 17.58 ARE AMENDED as specified in Appendix B, and such rule amendments shall be effective 30 days after publication in the *Federal Register*, except for

¹⁶³ *See Notice*, 25 FCC Rcd at 4005-07.

¹⁶⁴ *See* 5 U.S.C. § 801(a)(1)(A).

those rules and requirements which contain new or modified information collection requirements that require approval by the Office of Management and Budget (“OMB”) under the Paperwork Reduction Act (PRA) and WILL BECOME EFFECTIVE after the Commission publishes a notice in the *Federal Register* announcing such approval and the relevant effective date.

66. IT IS FURTHER ORDERED that the American Tower Corporation Request for Modification of Existing Waiver of 47 C.F.R. § 17.47(b) IS DISMISSED without prejudice.

67. IT IS FURTHER ORDERED that, pursuant to Section 801(a)(1)(A) of the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A), the Commission SHALL SEND a copy of this *Report and Order* to Congress and to the Government Accountability Office.

68. IT IS FURTHER ORDERED that the Commission’s Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

List of Commenters

<u>Commenter</u>	<u>Date</u>
American Petroleum Institute	7/20/2010
American Tower Corporation	7/20/2010
Association of Federal Communications Consulting Engineers	7/20/2010
AT&T	7/20/2010
Blooston, Mordkofsky, Dickens, Duffy & Prendergast, LLP	7/20/2010
Caroline Kennedy	7/20/2010
Cohen, Dippell and Everist, PC	7/20/2010
CTIA—The Wireless Association	7/20/2010
Flash Technology	7/20/2010
Hammett & Edison, Inc. H&E	7/19/2010
Hatfield & Dawson Consulting Engineers, LLC	7/19/2010
Henry Ruhwiedel	(filed) 5/4/2010
Karen Anne Smith	6/21/2010
National Association of Broadcasters	7/20/2010
National Telecommunications Cooperative Association	7/20/2010
Patrick Worsham (Alexander Utility Engineering)	(filed) 4/27/2010
PCIA—The Wireless Infrastructure Association	7/20/2010
PCIA—The Wireless Infrastructure Association	8/13/2010
Ralph M. Wallem	(filed) 5/31/2010
Robert Moore	(filed) 4/26/2010
TowerSentry, LLC	7/20/2010
Verizon Wireless	7/20/2010

Reply Comments

Cohen, Dippell and Everist, P.C.	8/19/2010
National Association of Broadcasters	8/19/2010
PCIA—The Wireless Infrastructure Association	8/19/2010
United States Cellular Corporation	8/19/2010

Ex Partes

Crown Castle USA Inc., American Tower Corporation, SBA Communications Corp.	12/10/2013
CTIA—The Wireless Association	7/29/2010
The DAS Forum (A membership section of PCIA-The Wireless Infrastructure Assn)	7/27/2010

PCIA—The Wireless Infrastructure Association	12/18/2012
PCIA—The Wireless Infrastructure Association	11/22/2010
Utilities Telecom Council	11/9/2011
<u>Comments to ATC Request for Complete Waiver of Section 17.47(b)</u>	
AT&T	2/14/2014
Flash Technology	2/14/2014
NTCH, Inc.	2/11/2014
PCIA-The Wireless Infrastructure Association	2/14/2014

APPENDIX B**Final Rules**

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 C.F.R. Parts 0, 1, and 17 as follows:

PART 0 – COMMISSION ORGANIZATION

1. The authority citation for Part 0 continues to read as follows:

Authority: Sec. 5, 48 Stat. 1068, as amended; 47 U.S.C. 155, 225, unless otherwise noted.

2. Section 0.331 is amended by revising paragraph (d) to read as follows:

§ 0.331 Authority delegated.

* * * * *

(d) *Authority concerning rulemaking proceedings.* The Chief, Wireless Telecommunications Bureau shall not have the authority to act upon notices of proposed rulemaking and inquiry, final orders in rulemaking proceedings and inquiry proceedings, and reports arising from any of the foregoing except such orders involving ministerial conforming amendments to rule parts, or orders conforming any of the applicable rules to formally adopted international conventions or agreements where novel questions of fact, law, or policy are not involved. Orders conforming any of the applicable rules in part 17 of this chapter to rules formally adopted by the Federal Aviation Administration also need not be referred to the Commission if they do not involve novel questions of fact, law, or policy. In addition, revisions to the airport terminal use list in § 90.35(c)(61) of this chapter and revisions to the Government Radiolocation list in § 90.371(b) of this chapter need not be referred to the Commission. Adoption of certain technical standards applicable to hearing aid compatibility under § 20.19 of this chapter made together with the Chief of the Office of Engineering and Technology, as specified in § 20.19(k) of this chapter, also need not be referred to the Commission. Also, the addition of new Marine VHF frequency coordination committee(s) to § 80.514 of this chapter need not be referred to the Commission if they do not involve novel questions of fact, policy or law, as well as requests by the United States Coast Guard to:

- (1) Designate radio protection areas for mandatory Vessel Traffic Services (VTS) and establish marine channels as VTS frequencies for these areas; or

(2) Designate regions for shared commercial and non-commercial vessel use of VHF marine frequencies.

(3) Designate by footnote to frequency table in § 80.373(f) of this chapter marine VHF frequencies are available for intership port operations communications in defined port areas.

* * * * *

PART 1 – PRACTICE AND PROCEDURE

3. The authority citation for Part 1 continues to read as follows:

Authority: 15 U.S.C. 79 *et. seq.*; 47 U.S.C. 151, 154(j), 155, 157, 225, and 303(r).

4. Section 1.61 is amended by revising subparagraph (5) of paragraph (a) to read as follows:

§ 1.61 Procedures for handling applications requiring special aeronautical study.

* * * * *

(a) * * *

(5) Upon receipt of FCC Form 854, and attached FAA final determination of “no hazard,” the Bureau may prescribe antenna structure painting and/or lighting specifications or other conditions in accordance with the FAA airspace recommendation. Unless otherwise specified by the Bureau, the antenna structure must conform to the FAA’s painting and lighting recommendations set forth in the FAA’s determination of “no hazard” and the associated FAA study number. The Bureau returns a completed Antenna Structure Registration (FCC Form 854R) to the registrant. If the proposed structure is disapproved the registrant is so advised.

* * * * *

PART 17 – CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES

5. The authority citation for Part 17 continues to read as follows:

Authority: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply secs. 301, 309, 48 Stat. 1081, 1085 as amended; 47 U.S.C. 301, 309.

6. Section 17.1 is amended by revising paragraph (b) to read as follows:

§ 17.1 Basis and purpose.

* * * * *

(b) The purpose of this part is to prescribe certain procedures for antenna structure registration and standards with respect to the Commission's consideration of proposed antenna structures which will serve as a guide to antenna structure owners.

7. Section 17.2 is amended by revising paragraphs (a), (b), and (c) to read as follows:

§ 17.2 Definitions.

(a) *Antenna structure.* The term antenna structure means a structure that is constructed or used to transmit radio energy, or that is constructed or used for the primary purpose of supporting antennas to transmit and/or receive radio energy, and any antennas and other appurtenances mounted thereon, from the time construction of the supporting structure begins until such time as the supporting structure is dismantled.

(b) *Antenna farm area.* A geographical location, with established boundaries, designated by the Federal Communications Commission, in which antenna structures with a common impact on aviation may be grouped.

(c) *Antenna structure owner.* For the purposes of this part, an antenna structure owner is the individual or entity vested with ownership, equitable ownership, dominion, or title to the antenna structure that is constructed or used to transmit radio energy, or the underlying antenna structure that supports or is intended to support antennas and other appurtenances. Notwithstanding any agreements made between the owner and any entity designated by the owner to maintain the antenna structure, the owner is ultimately responsible for compliance with the requirements of this part.

(d) * * *

8. Section 17.4 is amended by revising paragraphs (a), (b), (e), (f), (g), and adding paragraphs (i), (j), and (k) to read as follows:

§ 17.4 Antenna structure registration.

(a) The owner of any proposed or existing antenna structure that requires notice of proposed construction to the Federal Aviation Administration (FAA) due to physical obstruction must register the structure with the Commission. (See § 17.7 for FAA notification requirements.) This includes those structures used as part of stations licensed by the Commission for the transmission of radio energy, or to be used as part of a

cable television head end system. If a Federal Government antenna structure is to be used by a Commission licensee, the structure must be registered with the Commission. If the FAA exempts an antenna structure from notification, it is exempt from the requirement that it register with the Commission. (See § 17.7(e) for exemptions to FAA notification requirements.)

(1) For a proposed antenna structure or alteration of an existing antenna structure, the owner must register the structure prior to construction or alteration.

(2) For a structure that did not originally fall under the definition of “antenna structure,” the owner must register the structure prior to hosting a Commission licensee.

(b) Except as provided in paragraph (e) of this section, each owner of an antenna structure described in paragraph (a) of this section must file FCC Form 854 with the Commission. Additionally, each owner of a proposed structure referred to in paragraph (a) of this section must submit a valid FAA determination of “no hazard.” In order to be considered valid by the Commission, the FAA determination of “no hazard” must not have expired prior to the date on which FCC Form 854 is received by the Commission. The height of the structure will be the highest point of the structure including any obstruction lighting or lightning arrester. If an antenna structure is not required to be registered under paragraph (a) of this section and it is voluntarily registered with the Commission after the effective date of this rule, the registrant must note on FCC Form 854 that the registration is voluntary. Voluntarily registered antenna structures are not subject to the lighting and marking requirements contained in this part.

(c) * * *

(d) * * *

(e) If the owner of the antenna structure cannot file FCC Form 854 because it is subject to a denial of Federal benefits under the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862, the first tenant licensee authorized to locate on the structure (excluding tenants that no longer occupy the structure) must register the structure using FCC Form 854, and provide a copy of the Antenna Structure Registration (FCC Form 854R) to the owner. The owner remains responsible for providing to all tenant licensees and permittees notification that the structure has been registered, consistent with paragraph (f) of this section, and for

posting the registration number as required by paragraph (g) of this section.

(f) The Commission shall issue to the registrant FCC Form 854R, Antenna Structure Registration, which assigns a unique Antenna Structure Registration Number. The antenna structure owner shall immediately provide to all tenant licensees and permittees notification that the structure has been registered, along with either a copy of Form 854R or the Antenna Structure Registration Number and a link to the FCC antenna structure website: <http://wireless.fcc.gov/antenna/>. This notification may be done electronically or via paper mail.

(g) Except as described in paragraph (h) of this section, the Antenna Structure Registration Number must be displayed so that it is conspicuously visible and legible from the publicly accessible area nearest the base of the antenna structure along the publicly accessible roadway or path. Where an antenna structure is surrounded by a perimeter fence, or where the point of access includes an access gate, the Antenna Structure Registration Number should be posted on the perimeter fence or access gate. Where multiple antenna structures having separate Antenna Structure Registration Numbers are located within a single fenced area, the Antenna Structure Registration Numbers must be posted both on the perimeter fence or access gate and near the base of each antenna structure. If the base of the antenna structure has more than one point of access, the Antenna Structure Registration Number must be posted so that it is visible at the publicly accessible area nearest each such point of access. Materials used to display the Antenna Structure Registration Number must be weather-resistant and of sufficient size to be easily seen where posted.

(h) * * *

(i) Absent Commission specification, the painting and lighting specifications recommended by the FAA are mandatory (see § 17.23). However, the Commission may specify painting and/or lighting requirements for each antenna structure registration in addition to or different from those specified by the FAA.

(j) Any change or correction in the overall height of one foot or greater or coordinates of one second or greater in longitude or latitude of a registered antenna structure requires prior approval from the FAA and

modification of the existing registration with the Commission.

(k) Any change in the marking and lighting that varies from the specifications described on any antenna structure registration requires prior approval from the FAA and the Commission.

9. Section 17.6 is amended by revising its caption, and by revising paragraph (c), to read as follows:

§ 17.6 Responsibility for painting and lighting compliance.

* * * * *

(c) If the owner of the antenna structure cannot file FCC Form 854 because it is subject to a denial of Federal benefits under the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862, the first tenant licensee authorized to locate on the structure (excluding tenants that no longer occupy the structure) must register the structure using FCC Form 854, and provide a copy of the Antenna Structure Registration (FCC Form 854R) to the owner. The owner remains responsible for providing to all tenant licensees and permittees notification that the structure has been registered, consistent with § 17.4(f), and for posting the registration number as required by § 17.4(g).

10. Section 17.7 is amended by revising its introductory language, revising paragraphs (b) and (d), and adding paragraph (e) to read as follows:

§ 17.7 Antenna structures requiring notification to the FAA.

A notification to the FAA is required, except as set forth in paragraph (e) of this section, for any of the following construction or alteration:

(a) * * *

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 6.10 kilometers (20,000 feet) from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 0.98 kilometers (3,200 feet) in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 3.05 kilometers (10,000 feet) from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than

0.98 kilometers (3,200 feet) in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 1.52 kilometers (5,000 feet) from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) * * *

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the United States Department of Defense.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) A notification to the FAA is not required for any of the following construction or alteration:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any antenna structure of 6.10 meters (20 feet) or less in height, except one that would increase the height of another antenna structure.

* * * * *

11. Section 17.14 is removed and reserved.

12. Section 17.17 is removed and reserved.

13. Section 17.21 is amended by revising paragraph (a) and adding paragraph (c) to read as follows:

§ 17.21 Painting and lighting, when required.

* * * * *

(a) Their height exceeds any obstruction standard requiring notification to the FAA (see § 17.4(a) and § 17.7).

(b) * * *

(c) An antenna installation is of such a nature that its painting and lighting specifications in accordance with the FAA airspace recommendation are confusing, or endanger rather than assist airmen, or are otherwise inadequate. In these cases, the Commission will specify the type of painting and lighting or other marking to be used for the particular structure.

14. Section 17.22 is removed and reserved.

15. Section 17.23 is revised to read as follows:

§ 17.23 Specifications for painting and lighting antenna structures.

Unless otherwise specified by the Commission, each new or altered antenna structure must conform to the FAA's painting and lighting specifications set forth in the FAA's final determination of "no hazard" and the associated FAA study for that particular structure. For purposes of this part, any specifications, standards, and general requirements set forth by the FAA in the structure's determination of "no hazard" and the associated FAA study are mandatory. Additionally, each antenna structure must be painted and lighted in accordance with any painting and lighting requirements prescribed on the antenna structure's registration, or in accordance with any other specifications provided by the Commission.

16. The undesignated center heading "Aviation Red Obstruction Lighting [Reserved]" is removed.

17. A new Section 17.24 is added to read as follows:

§ 17.24 Existing structures.

No change to painting or lighting criteria or relocation of airports shall at any time impose a new restriction upon any then existing or authorized antenna structure or structures, unless the FAA issues a new determination of "no hazard" and associated FAA study for the particular structure.

18. Section 17.45 is removed and reserved.

19. Section 17.47 is revised by adding paragraph (c) to read as follows:

§ 17.47 Inspection of antenna structure lights and associated control equipment.

* * * * *

(a) * * *

(b) * * *

(c) Is exempt from paragraph (b) of this section for any antenna structure monitored by a system that the Wireless Telecommunications Bureau has determined includes self-diagnostic features sufficient to render quarterly inspections unnecessary, upon certification of use of such system to the Bureau.

20. Section 17.48 is amended by revising paragraphs (a) and (b) to read as follows:

§ 17.48 Notification of extinguishment or improper functioning of lights.

* * * * *

(a) Shall report immediately to the FAA, by means acceptable to the FAA, any observed or otherwise known extinguishment or improper functioning of any top steady burning light or any flashing obstruction light, regardless of its position on the antenna structure, not corrected within 30 minutes. If the lights cannot be repaired within the FAA's Notices to Airmen (NOTAM) period, the owner shall notify the FAA to extend the outage date and report a return-to-service date. The owner shall repeat this process until the lights are repaired. Such reports shall set forth the condition of the light or lights, the circumstances which caused the failure, the probable date for restoration of service, the FCC Antenna Structure Registration Number, the height of the structure (AGL and AMSL if known) and the name, title, address, and telephone number of the person making the report. Further notification to the FAA by means acceptable to the FAA shall be given immediately upon resumption of normal operation of the light or lights.

(b) An extinguishment or improper functioning of a steady burning side intermediate light or lights, shall be corrected as soon as practicable, but notification to the FAA of such extinguishment or improper functioning is not required.

21. Section 17.49 is amended by revising its introductory language to read as follows:

§ 17.49 Recording of antenna structure light inspections in the owner record.

The owner of each antenna structure which is registered with the Commission and has been assigned lighting specifications referenced in this part must maintain a record of any observed or otherwise known extinguishment or improper functioning of a structure light. This record shall be retained for a period of two years and provided to the FCC or its agents upon request. The record shall include the following information for each such event:

* * * * *

22. Section 17.50 is revised to read as follows:

§ 17.50 Cleaning and repainting.

Antenna structures requiring painting under this part shall be cleaned or repainted as often as necessary to maintain good visibility. Evaluation of the current paint status shall be made by using the FAA's In-Service Aviation Orange Tolerance Chart. This chart is based upon the color requirements contained in the National Bureau of Standards Report NBSIR 75-663, Color Requirements for the Marking of Obstructions.

23. Section 17.51 is removed and reserved.

24. Section 17.56 is revised to read as follows:

§ 17.56 Maintenance of lighting equipment.

Replacing or repairing of lights, automatic indicators or automatic control or alarm systems shall be accomplished as soon as practicable.

25. Section 17.57 is revised to read as follows:

§ 17.57 Report of radio transmitting antenna construction, alteration, and/or removal.

The owner of an antenna structure for which an Antenna Structure Registration Number has been obtained must notify the Commission within 5 days of completion of construction (FCC Form 854-R) and/or dismantlement (FCC Form 854). The owner must also notify the Commission within 5 days of any change in structure height or change in ownership information (FCC Form 854).

26. Section 17.58 is removed and reserved.

APPENDIX C

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making (Notice or NPRM)*.² The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA. Because the *Report and Order* amends the Commission's rules, this Final Regulatory Flexibility Analysis (FRFA) is included to conform with the RFA.³

A. Need for, and Objectives of, the Report and Order

2. Section 303(q) of the Communications Act vests in the Commission the authority to require painting and/or lighting of radio towers that may constitute a hazard to air navigation. Part 17 of the Commission's rules sets forth procedures for identifying those antenna structures that might affect air navigation, consistent with recommendations made by the Federal Aviation Administration (FAA), and for registering such structures with the Commission. The Commission requires owners of antenna structures to register with the Commission those structures that meet the registration criteria and to exercise primary responsibility for the prescribed painting and lighting. The rule changes seek to achieve the best framework to continue to fulfill the Commission's statutory responsibility to require antenna structure owners, registrants and Commission licensees to do whatever is necessary to prevent antenna structures from being hazards or menaces to air navigation.

3. Streamlining and eliminating outdated provisions of the Commission's Part 17 rules governing the construction, marking, and lighting of antenna structures improves efficiency, reduces regulatory burdens, and improves compliance with tower painting and lighting requirements, while continuing to ensure the safety of pilots and aircraft passengers nationwide. This action marks another step in our process reform efforts, and will allow us to modernize our rules while adhering to our statutory responsibility to prevent antenna structures from being hazards to air navigation.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

4. One commenter directly responded to the IRFA, raising concerns that the IRFA did not identify rules that might duplicate, overlap, or conflict with the rules proposed in the *Notice*.⁴ Specifically, the comments by Hammet & Edison addressed the Commission's proposal to defer to the FAA's criteria for when notice of construction or alteration is required. At the time of the *Notice*, a then-pending FAA rulemaking was considering whether to require notice for structures that emit specific radio frequencies, given the FAA's concerns over the impact of these frequencies on pilot communication.⁵ Hammet & Edison request that the Commission reconsider the *Notice* in light of these concerns.⁶

5. In response to concerns by Hammet & Edison and other commenters about the potential for the scope of the Commission's Part 17 rules to expand as a result of an FAA rulemaking,⁷ the Report

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-612, has been amended by the Small Business Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² 2004 and 2006 Biennial Regulatory Reviews -- Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Notice of Proposed Rulemaking, 25 FCC Rcd 3982 (2010) (*Notice*).

³ See 5 U.S.C. § 604.

⁴ Comments of Hammet & Edison, Inc. (filed July 19, 2010) (Hammet & Edison Comments).

⁵ See *supra*, para. 56, n.155.

⁶ Hammet & Edison Comments at 2.

⁷ See also PCIA Reply Comments at 3.

and Order declines to adopt the proposal from the *Notice* to defer to the FAA on these criteria.⁸ The FAA did not adopt the expanded scope proposed originally, however a decision on that issue remains pending. Instead, the Report and Order adopts modifications to the relevant rules in Part 17 to reflect the current FAA notification criteria and exemptions.⁹ This accommodation will alleviate concerns raised by commenters about FAA rule changes expanding the scope of the Part 17 rules, and are adequately addressed in this FRFA.

6. In addition, a number of commenters raised concerns about the impact on small businesses of our lighting and marking requirements. This FRFA explains below how the revised rules adopted in the Report and Order will affect antenna structure owners, particularly owners that are small businesses.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

7. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

8. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.¹⁰ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹¹ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹² A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).¹³

9. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* Our action may, over time, affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three comprehensive, statutory small entity size standards.¹⁴ First, nationwide, there are a total of approximately 27.5 million small businesses, according to the SBA.¹⁵ In addition, a “small organization” is generally “any not-for-profit enterprise which is independently owned

⁸ See *supra*, para. 56.

⁹ See *supra*, para. 57.

¹⁰ 5 U.S.C. § 604(a)(3).

¹¹ 5 U.S.C. § 601(6).

¹² 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹³ 15 U.S.C. § 632.

¹⁴ See 5 U.S.C. §§ 601(3)–(6).

¹⁵ See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs> (showing figures are from 2009).

and operated and is not dominant in its field.”¹⁶ Nationwide, as of 2007, there were approximately 1,621,315 small organizations.¹⁷ Finally, the term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹⁸ Census Bureau data for 2011 indicate that there were 89,476 local governmental jurisdictions in the United States.¹⁹ We estimate that, of this total, as many as 88,506 entities may qualify as “small governmental jurisdictions.”²⁰ Thus, we estimate that most governmental jurisdictions are small.

10. *Wireless Telecommunications Carriers (except satellite).* This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services.²¹ The appropriate size standard under SBA rules is for the category Wireless Telecommunications Carriers. The size standard for that category is that a business is small if it has 1,500 or fewer employees.²² For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year.²³ Of this total, 10,791 establishments had employment of 99 or fewer employees and 372 had employment of 1000 employees or more.²⁴ Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by our proposed action.²⁵ Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and Specialized Mobile Radio (“SMR”) Telephony services.²⁶ Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.²⁷ Consequently, the Commission estimates that approximately half or more of these

¹⁶ 5 U.S.C. § 601(4).

¹⁷ INDEPENDENT SECTOR, THE NEW NONPROFIT ALMANAC & DESK REFERENCE (2010).

¹⁸ 5 U.S.C. § 601(5).

¹⁹ U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2011, Table 427 (2007)

²⁰ The 2007 U.S. Census data for small governmental organizations are not presented based on the size of the population in each such organization. There were 89,476 small governmental organizations in 2007. If we assume that county, municipal, township and school district organizations are more likely than larger governmental organizations to have populations of 50,000 or less, the total of these organizations is 52,125. If we make the same assumption about special districts, and also assume that special districts are different from county, municipal, township, and school districts, in 2007 there were 37,381 special districts. Therefore, of the 89,476 small governmental organizations documented in 2007, as many as 88,506 may be considered small under the applicable standard. This data may overestimate the number of such organizations that has a population of 50,000 or less. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES 2011, Tables 427, 426 (Data cited therein are from 2007).

²¹ See <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2007%20NAICS%20Search>.

²² 13 C.F.R. § 121.201, North American Industry Classification System (“NAICS”) Code 517210.

²³ U.S. Census Bureau, Subject Series: Information, Table 5, “Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517210” (issued Nov. 2010).

²⁴ See

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ2&prodType=table. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “100 employees or more.”

²⁵ See *id.*

²⁶ See *Trends in Telephone Service* at Table 5.3.

²⁷ See *id.*

firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

11. Broadband Radio Service and Educational Broadband Service. Broadband Radio Service systems, previously referred to as Multipoint Distribution Service (“MDS”) and Multichannel Multipoint Distribution Service (“MMDS”) systems, and “wireless cable,” transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (“BRS”) and Educational Broadband Service (“EBS”) (previously referred to as the Instructional Television Fixed Service (“ITFS”)).²⁸ In connection with the 1996 BRS auction, the Commission established a small business size standard as designating an entity that had annual average gross revenues of no more than \$40 million in the previous three calendar years.²⁹ The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. At this time, we estimate that of the 61 small business BRS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent BRS licensees that are considered small entities.³⁰ After adding the number of small business auction licensees to the number of incumbent licensees not already counted, we find that there are currently approximately 440 BRS licensees that are defined as small businesses under either the SBA’s or the Commission’s rules.

12. In 2009, the Commission conducted Auction 86, the sale of 78 licenses in the BRS areas.³¹ The Commission offered three levels of bidding credits: (i) a bidder with attributed average annual gross revenues that exceed \$15 million and do not exceed \$40 million for the preceding three years (small business) received a 15 percent discount on its winning bid; (ii) a bidder with attributed average annual gross revenues that exceed \$3 million and do not exceed \$15 million for the preceding three years (very small business) received a 25 percent discount on its winning bid; and (iii) a bidder with attributed average annual gross revenues that do not exceed \$3 million for the preceding three years (entrepreneur) received a 35 percent discount on its winning bid.³² Auction 86 concluded in 2009 with the sale of 61 licenses.³³ Of the ten winning bidders, two bidders that claimed small business status won 4 licenses; one bidder that claimed very small business status won three licenses; and two bidders that claimed entrepreneur status won six licenses.

13. Fixed Microwave Services. Microwave services include common carrier,³⁴ private-operational fixed,³⁵ and broadcast auxiliary radio services.³⁶ They also include the Local Multipoint

²⁸ Amendment of Parts 21 and 74 of the Commission’s Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act—Competitive Bidding, MM Docket No. 94-131, PP Docket No. 93-253, *Report and Order*, 10 FCC Rcd 9589, 9593 para. 7 (1995).

²⁹ 47 C.F.R. § 21.961(b)(1) (1996).

³⁰ 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA’s small business size standard of 1,500 or fewer employees.

³¹ Auction of Broadband Radio Service (BRS) Licenses, Scheduled for October 27, 2009, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 86, AU Docket No. 09-56, *Public Notice*, 24 FCC Rcd 8277 (2009).

³² *Id.* at 8296 para. 73.

³³ Auction of Broadband Radio Service Licenses Closes, Winning Bidders Announced for Auction 86, Down Payments Due November 23, 2009, Final Payments Due December 8, 2009, Ten-Day Petition to Deny Period, *Public Notice*, 24 FCC Rcd 13572 (2009).

³⁴ See 47 C.F.R. Part 101, Subparts C and I.

Distribution Service (LMDS),³⁷ the Digital Electronic Message Service (DEMS),³⁸ and the 24 GHz Service,³⁹ where licensees can choose between common carrier and non-common carrier status.⁴⁰ At present, there are approximately 31,428 common carrier fixed licensees and 79,732 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. There are approximately 120 LMDS licensees, three DEMS licensees, and three 24 GHz licensees. The Commission has not yet defined a small business with respect to microwave services. For purposes of the IRFA, we will use the SBA's definition applicable to Wireless Telecommunications Carriers (except satellite)—*i.e.*, an entity with no more than 1,500 persons.⁴¹ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.⁴² For the category of Wireless Telecommunications Carriers (except Satellite), Census data for 2007 show that there were 11,163 firms that operated that year.⁴³ Of those, 10,791 had fewer than 1000 employees, and 372 firms had 1000 employees or more. Thus under this category and the associated small business size standard, the majority of firms can be considered small. We note that the number of firms does not necessarily track the number of licensees. We estimate that virtually all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition.

14. *Private Land Mobile Radio.* Private Land Mobile Radio ("PLMR") systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories that operate and maintain switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services.⁴⁴ The SBA has not developed a definition of small entity specifically applicable to PLMR licensees due to the vast array of PLMR users. However, the Commission believes that the most appropriate classification for PLMR is Wireless Communications Carriers (except satellite). The size standard for that category is that a business is small if it has 1,500 or fewer employees.⁴⁵ For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year.⁴⁶ Of this total, 10,791 establishments

(Continued from previous page)

³⁵ See 47 C.F.R. Part 101, Subparts C and H.

³⁶ Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission's Rules. See 47 C.F.R. Part 74. Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

³⁷ See 47 C.F.R. Part 101, Subpart L.

³⁸ See 47 C.F.R. Part 101, Subpart G.

³⁹ See *id.*

⁴⁰ See 47 C.F.R. §§ 101.533, 101.1017.

⁴¹ 13 C.F.R. § 121.201, NAICS code 517210.

⁴² 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

⁴³ U.S. Census Bureau, 2007 Economic Census, Sector 51, 2007 NAICS code 517210 (rel. Oct. 20, 2009), http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-skip=700&-ds_name=EC0751SSSZ5&-lang=en.

⁴⁴ <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2007%20NAICS%20Search>.

⁴⁵ 13 C.F.R. § 121.201, NAICS Code 517210.

⁴⁶ U.S. Census Bureau, Subject Series: Information, Table 5, "Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517210" (issued Nov. 2010).

had employment of 999 or fewer employees and 372 had employment of 1000 employees or more.⁴⁷ Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by our proposed action.⁴⁸

15. Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and Specialized Mobile Radio (“SMR”) Telephony services.⁴⁹ Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.⁵⁰ Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, we estimate that the majority of wireless firms can be considered small.

16. Other relevant information about PLMRs is as follows. The Commission’s 1994 Annual Report on PLMRs⁵¹ indicates that at the end of fiscal year 1994 there were 1,087,267 licensees operating 12,481,989 transmitters in the PLMR bands below 512 MHz. Because any entity engaged in a commercial activity is eligible to hold a PLMR license, the revised rules in this context could potentially impact every small business in the United States.

17. Personal Radio Services. Personal radio services provide short-range, low power radio for personal communications, radio signaling, and business communications not provided for in other services. The Personal Radio Services include spectrum licensed under Part 95 of our rules.⁵² These services include Citizen Band Radio Service (“CB”), General Mobile Radio Service (“GMRS”), Radio Control Radio Service (“R/C”), Family Radio Service (“FRS”), Wireless Medical Telemetry Service (“WMTS”), Medical Implant Communications Service (“MICS”), Low Power Radio Service (“LPRS”), and Multi-Use Radio Service (“MURS”).⁵³ There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. Under the RFA, the Commission is required to make a determination of which small entities are directly affected by the rules being proposed. Since all such entities are wireless, we apply the definition of Wireless Telecommunications Carriers (except Satellite), pursuant to which a small entity is defined as employing 1,500 or fewer persons.⁵⁴ Many of the licensees in these services are individuals, and thus are not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities under an SBA definition that might be directly affected by our proposed actions.

⁴⁷ See

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ2&prodType=table. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “100 employees or more.”

⁴⁸ See *id.*

⁴⁹ See *Trends in Telephone Service* at Table 5.3.

⁵⁰ See *id.*

⁵¹ Federal Communications Commission, 60th Annual Report, Fiscal Year 1994.

⁵² 47 C.F.R. part 90.

⁵³ The Citizens Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service are governed by subpart D, subpart A, subpart C, subpart B, subpart H, subpart I, subpart G, and subpart J, respectively, of part 95 of the Commission’s rules. See generally 47 C.F.R. Part 95.

⁵⁴ 13 C.F.R. § 121.201, NAICS Code 517210.

18. *Public Safety Radio Services.* Public Safety radio services include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services. There are a total of approximately 127,540 licensees within these services. Governmental entities⁵⁵ as well as private businesses comprise the licensees for these services. All governmental entities with populations of less than 50,000 fall within the definition of a small entity.⁵⁶

19. *Location and Monitoring Service ("LMS").* Multilateration LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined a "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed \$15 million.⁵⁷ A "very small business" is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed \$3 million.⁵⁸ These definitions have been approved by the SBA.⁵⁹ An auction for LMS licenses commenced on February 23, 1999 and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses.

20. *Multiple Address Systems.* Entities using Multiple Address Systems ("MAS") spectrum, in general, fall into two categories: (1) those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines "small entity" for MAS licensees as an entity that has average gross revenues of less than \$15 million in the three previous calendar years.⁶⁰ "Very small business" is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$3 million for the preceding three calendar years.⁶¹ The SBA has approved of these definitions.⁶² The majority of these entities will most likely be licensed in bands where the Commission has implemented a geographic area licensing approach that would require the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission's licensing database indicates that, as of April 16, 2010, there were a total of 11,653 site-based MAS station authorizations. Of these, 58 authorizations were associated with common carrier service. In addition, the Commission's licensing database indicates that, as of April 16, 2010, there were a total of 3,330 EA market area MAS authorizations. The Commission's licensing database indicates that, as of April 16, 2010, of the 11,653 total MAS station authorizations, 10,773 authorizations were for private radio service.

21. With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definition developed by the SBA would be more

⁵⁵ 47 C.F.R. § 1.1162.

⁵⁶ 5 U.S.C. § 601(5)-(6).

⁵⁷ Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, PR Docket No. 93-61, *Second Report and Order*, 13 FCC Rcd 15182, 15192 para. 20 (1998); *see also* 47 C.F.R. § 90.1103.

⁵⁸ *Id.*

⁵⁹ *See* Letter from Aida Alvarez, Administrator, Small Business Administration to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission (Feb. 22, 1999).

⁶⁰ *See* Amendment of the Commission's Rules Regarding Multiple Address Systems, WT Docket No. 97-81, *Report and Order*, 15 FCC Rcd 11956, 12008 para. 123 (2000).

⁶¹ *Id.*

⁶² *See* Letter from Aida Alvarez, Administrator, Small Business Administration, to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, dated June 4, 1999.

appropriate than the Commission's definition. The applicable definition of small entity in this instance appears to be the "Wireless Telecommunications Carriers (except satellite)" definition under the SBA rules.⁶³ Under that SBA category, a business is small if it has 1,500 or fewer employees.⁶⁴ For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year.⁶⁵ Of this total, 10,791 establishments had employment of 99 or fewer employees and 372 had employment of 100 employees or more.⁶⁶ Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by our proposed action.⁶⁷

22. *Television Broadcasting.* The SBA defines a television broadcasting station that has no more than \$35.5 million in annual receipts as a small business.⁶⁸ Business concerns included in this industry are those primarily engaged in broadcasting images together with sound.⁶⁹ These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public.⁷⁰ These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule.⁷¹ Programming may originate in the station's own studio, from an affiliated network, or from an external source.⁷²

23. According to Commission staff review of the BIA Financial Network, Inc. Media Access Pro Television Database as of March 31, 2013, about 90 percent of an estimated 1,385 commercial television stations in the United States have revenues of \$35.5 million or less. Based on this data and the associated size standard, we conclude that the majority of such establishments are small. The Commission has estimated the number of licensed noncommercial educational ("NCE") stations to be 396.⁷³ We do not have revenue estimates for NCE stations. These stations rely primarily on grants and contributions for their operations, so we will assume that all of these entities qualify as small businesses. In addition, there are approximately 567 licensed Class A stations, 2,227 licensed low power television ("LPTV") stations, and 4,518 licensed TV translators.⁷⁴ Given the nature of these services, we will

⁶³ 13 C.F.R. § 121.201, NAICS Code 517210.

⁶⁴ *Id.*

⁶⁵ U.S. Census Bureau, Subject Series: Information, Table 5, "Establishment and Firm Size: Employment Size of Firms for the United States: 2007 NAICS Code 517210" (issued Nov. 2010).

⁶⁶ *See*

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ2&prodType=table. Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "100 employees or more."

⁶⁷ *See id.*

⁶⁸ Television broadcasting stations with no more than \$35.5 million in annual receipts are considered a small business pursuant to the SBA's standards. *See* Small Business Size Standards: Information, 77 Fed. Reg. 72702, 72704 (Dec. 6, 2012).

⁶⁹ *See* 13 C.F.R. § 121.201, NAICS Code 515120 (2007).

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² U.S. Census Bureau, 2007 NAICS Definitions, "515112 Radio Stations"; [http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=515112&search=2007 NAICS Search](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=515112&search=2007%20NAICS%20Search).

⁷³ News Release, *Broadcast Station Totals as of March 31, 2013* (MB rel. Apr. 12, 2013) ("*March 31, 2013 Broadcast Station Totals Press Release*"), available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0412/DOC-320138A1.pdf.

⁷⁴ *See* *March 31, 2013 Broadcast Station Totals Press Release*.

presume that all LPTV licensees qualify as small entities under the above SBA small business size standard.

24. We note that in assessing whether a business entity qualifies as small under the above definition, business control affiliations must be included.⁷⁵ Our estimate, therefore, likely overstates the number of small entities affected by the proposed rules, because the revenue figures on which this estimate is based do not include or aggregate revenues from affiliated companies.

25. In addition, an element of the definition of “small business” is that the entity not be dominant in its field of operation. The Commission is unable at this time and in this context to define or quantify the criteria that would establish whether a specific television station is dominant in its market of operation. Accordingly, the foregoing estimate of small businesses to which the rules may apply does not exclude any television stations from the definition of a small business on this basis and is therefore over-inclusive to that extent. An additional element of the definition of “small business” is that the entity must be independently owned and operated. It is difficult at times to assess these criteria in the context of media entities, and our estimates of small businesses to which they apply may be over-inclusive to this extent.

26. Radio Broadcasting. This Economic Census category comprises establishments primarily engaged in broadcasting aural programs by radio to the public. Programming may originate in the station’s own studio, from an affiliated network, or from an external source.⁷⁶ The SBA defines a radio broadcasting entity that has \$35.5 million or less in annual receipts as a small business.⁷⁷ According to Commission staff review of the BIA Kelsey Inc. Media Access Radio Analyzer Database as of June 5, 2013, about 90 percent of the 11,340 of commercial radio stations in the United States have revenues of \$35.5 million or less. Therefore, the majority of such entities are small entities. The Commission has estimated the number of licensed noncommercial radio stations to be 3,917.⁷⁸ We do not have revenue data or revenue estimates for these stations. These stations rely primarily on grants and contributions for their operations, so we will assume that all of these entities qualify as small businesses. We note that in assessing whether a business entity qualifies as small under the above definition, business control affiliations must be included.⁷⁹ In addition, to be determined to be a “small business,” the entity may not be dominant in its field of operation.⁸⁰ We note that it is difficult at times to assess these criteria in the context of media entities, and our estimate of small businesses may therefore be over-inclusive.

27. FM translator stations and low power FM stations. The proposed rules and policies could affect licensees of FM translator and booster stations and low power FM (“LPFM”) stations, as well as potential licensees in these radio services. The same SBA definition that applies to radio broadcast licensees would apply to these stations. The SBA defines a radio broadcast station as a small business if such station has no more than \$35.5 million in annual receipts.⁸¹ Currently, there are approximately 6,155

⁷⁵ “[Businesses] are affiliates of each other when one [business] controls or has the power to control the other, or a third party or parties controls or has the power to control both.” 13 C.F.R. § 121.103(a)(1).

⁷⁶ U.S. Census Bureau, 2007 NAICS Definitions, “515112 Radio Stations”; [http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=515112&search=2007 NAICS Search](http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=515112&search=2007%20NAICS%20Search).

⁷⁷ See 13 C.F.R. § 121.201, NAICS Code 515112. See also Small Business Size Standards, 77 Fed. Reg. at 72704.

⁷⁸ March 31, 2013 Broadcast Station Totals Press Release.

⁷⁹ “[Businesses] are affiliates of each other when one [business] controls or has the power to control the other or a third party or parties controls or has the power to control both.” 13 C.F.R. § 121.103(a)(1).

⁸⁰ See 13 C.F.R. § 121.102(b).

⁸¹ See 13 C.F.R. § 121.201, NAICS Code 515112.

licensed FM translator and booster stations and 864 licensed LPFM stations.⁸² Given the nature of these services, we will presume that all of these licensees qualify as small entities under the SBA definition.

28. Cable Television Systems. Since 2007, these services have been defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: “This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies.”⁸³ The SBA has developed a small business size standard for this category, which is: all such firms having 1,500 or fewer employees.⁸⁴ Census data for 2007 shows that there were 3,188 firms that operated for the duration of that year.⁸⁵ Of those, 3,144 had fewer than 1000 employees, and 44 firms had more than 1000 employees. Thus under this category and the associated small business size standard, the majority of such firms can be considered small.

29. Cable Companies and Systems. The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission’s rules, a “small cable company” is one serving 400,000 or fewer subscribers, nationwide.⁸⁶ Industry data indicate that of approximately 1,100 cable operators nationwide, all but ten are small under this size standard.⁸⁷ In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.⁸⁸ Industry data indicate that of 6,635 systems nationwide, 5,802 systems have fewer than 10,000 subscribers, and an additional 302 systems have 10,000-19,999 subscribers.⁸⁹ Thus, under this second size standard, most cable systems are small.

30. Cable System Operators. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed

⁸² See News Release, “Broadcast Station Totals as of December 31, 2009” (rel. Feb. 26, 2010), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296538A1.pdf269784A1.doc.

⁸³ U.S. Census Bureau, *2012 NAICS Definitions: 517110 Wired Telecommunications Carriers*, <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517110&search=2012> (last visited May 5, 2014).

⁸⁴ U.S. Small Business Administration, Table of Small Business Size Standards Matched to North American Industry Classification System Codes, at 28 (2014), http://www.sba.gov/sites/default/files/files/size_table_01222014.pdf.

⁸⁵ See U.S. Census Bureau, American FactFinder, 2007 Economic Census of the United States, Table No. EC0751SSSZ5, Establishment and Firm Size: Employment Size of Firms for the United States: 2007, NAICS code 517110, http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ5 (last visited May 7, 2014).

⁸⁶ 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of \$100 million or less in annual revenues. Implementation of Sections of the 1992 Cable Act: Rate Regulation, *Sixth Report and Order and Eleventh Order on Reconsideration*, 10 FCC Rcd 7393, 7408 (1995).

⁸⁷ These data are derived from: Industry Data, National Cable & Telecommunications Association, <https://www.ncta.com/industry-data> (last visited Mar. 6, 2014), and R.R. Bowker, *Broadcasting & Cable Yearbook 2010*, “Top 25 Cable/Satellite Operators,” page C-2 (data current as of December, 2008).

⁸⁸ 47 C.F.R. § 76.901(c).

⁸⁹ Warren Communications News, *Television & Cable Factbook 2008*, “U.S. Cable Systems by Subscriber Size,” page F-2 (data current as of Oct. 2007). The data do not include 851 systems for which classifying data were not available.

\$250,000,000.”⁹⁰ The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.⁹¹ Industry data indicate that of approximately 1,100 cable operators nationwide, all but ten are small under this size standard.⁹² We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million,⁹³ and therefore we are unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

31. Satellite Telecommunications. Two economic census categories address the satellite industry. The first category has a small business size standard of \$30 million or less in average annual receipts, under SBA rules.⁹⁴ The second has a size standard of \$30 million or less in annual receipts.⁹⁵

32. The category of “Satellite Telecommunications” “comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.”⁹⁶ Census Bureau data for 2007 show that 607 Satellite Telecommunications establishments operated for that entire year.⁹⁷ Of this total, 533 establishments had annual receipts of under \$10 million, and 74 establishments had receipts of \$10 million or more.⁹⁸ Consequently, the Commission estimates that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

33. The second category, *i.e.*, “All Other Telecommunications,” comprises “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.”⁹⁹ For this category, Census data for 2007 shows that there were a total of 2,639

⁹⁰ 47 U.S.C. § 543(m)(2); *see* 47 C.F.R. § 76.901(f) & nn. 1-3.

⁹¹ 47 C.F.R. § 76.901(f); *see* Public Notice, *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, DA 01-158 (Cable Services Bureau, Jan. 24, 2001).

⁹² These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, “Top 25 Cable/Satellite Operators,” pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, “Ownership of Cable Systems in the United States,” pages D-1805 to D-1857.

⁹³ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission’s rules. *See* 47 C.F.R. § 76.909(b).

⁹⁴ 13 C.F.R. § 121.201, NAICS Code 517410.

⁹⁵ 13 C.F.R. § 121.201, NAICS Code 517919.

⁹⁶ U.S. Census Bureau, 2007 NAICS Definition, 517410 Satellite Telecommunications.

⁹⁷ *See*

http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ1&prodType=table.

⁹⁸ *See id.*

⁹⁹ *See* <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2007%20NAICS%20Search>.

establishments that operated for the entire year.¹⁰⁰ Of those 2,639 establishments, 2,333 operated with annual receipts of less than \$10 million and 306 with annual receipts of \$10 million or more.¹⁰¹ Consequently, the Commission estimates that a majority of All Other Telecommunications establishments are small entities that might be affected by our action.

34. *Non-Licensee Tower Owners*. Although at one time, most communications towers were owned by the licensee using the tower to provide communications service, many towers are now owned by third-party businesses that do not provide communications services themselves but lease space on their towers to other companies that provide communications services. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission on FCC Form 854.¹⁰² Thus, non-licensee tower owners may be affected by the provisions of this Report and Order.

35. As of June 28, 2013, there are approximately 113,612 registration records in a 'Constructed' status and 13,572 registration records in a 'Granted, Not Constructed' status in the ASR database. This includes both towers registered to licensees and towers registered to non-licensee tower owners. The Commission does not keep information from which we can easily determine how many of these towers are registered to non-licensees or how many non-licensees have registered towers.¹⁰³ Regarding towers that do not require antenna structure registration, we do not collect information as to the number of such towers in use and therefore cannot estimate the number of tower owners who would be subject to the proposed rules. Moreover, the SBA has not developed a size standard for small businesses in the category "Tower Owners." Therefore, we are unable to determine the number of non-licensee tower owners that are small entities. We believe, however, that when all individuals owning 10 or fewer towers and leasing space for collocation are included, non-licensee tower owners number in the thousands, and that nearly all of these qualify as small businesses under the SBA's definition for "All Other Telecommunications."¹⁰⁴ In addition, there may be other non-licensee owners of other wireless infrastructure, including DAS and small cells, that might be affected by the regulatory measures proposed in this Report and Order. We do not have any basis for estimating the number of such non-licensee owners that are small entities.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

36. The Report and Order adopts several reporting, recordkeeping, and other compliance requirements which could affect small entities. First, the Report and Order amends the Commission's rules to require that owners display the Antenna Structure Registration (ASR) number so that it is visible to a member of the general public who reaches the closest publicly accessible location near the antenna structure base. Where more than one publicly accessible access point exists, the Commission modifies its rules to require posting at each access point location. Likewise, where a single perimeter fence surrounds multiple antenna structures, the Commission will require that owners post the registration both at any access points, and at the base of the structure. These requirements are necessary to ensure that the FAA and Commission personnel, as well as members of the public, can quickly and easily identify a particular

¹⁰⁰ See http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2007_US_51SSSZ4&prodType=table.

¹⁰¹ See *id.*

¹⁰² 47 C.F.R. §§ 17.4(a), 17.7(a)-(b).

¹⁰³ We note, however, that approximately 13,000 towers are registered to 10 cellular carriers with 1,000 or more employees.

¹⁰⁴ 13 C.F.R. § 121.201, NAICS Code 517919. Under this category, a business is small if it has \$30 million or less in annual receipts.

structure in order to report a lighting outage or other air safety hazard in a timely fashion. The Commission also modifies its rules to allow owners to provide tenants the ASR number and link to the Commission's online system via mail, e-mail, or other electronic means, as an alternative to providing a paper copy of Form 854R. This update of our rules will reduce the compliance burden on all antenna structure owners, including small entities.

37. Further, the Commission revises its rules to require antenna structure owners to provide the FAA with regular updates on the status of their repairs of lighting outages so that the FAA can maintain notifications to aircraft throughout the entire period of time the antenna structure remains unlit. These updates will also include updates to its estimated return-to-service date to the FAA. The Commission concludes that on balance, this limited burden on antenna structure owners, which may include small entities, is insignificant compared to the need to have accurate antenna structure lighting outage information, as pilots rely on this information to ensure air safety. The Commission also eliminates the requirement for using a specific means of notification (which currently contains the outdated reference to "telegraph") and requires instead notification by means acceptable to the FAA. This change clarifies the rule by eliminating a previously specified option that is no longer viable, which in turn will lessen the burden on antenna structure owners, including small entities.

38. Finally, the Commission revises its rules to require antenna structure owners to maintain a record of observed or otherwise known extinguishments or improper functioning of structure lights for two years, and to provide such records to the Commission upon request. Limiting the retention time period to two years lessens the burden on antenna structure owners, which may include small entities, without hindering the Commission's ability to monitor an antenna structure owner's compliance record.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

39. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.¹⁰⁵

40. The rule changes herein are intended both to promote aircraft navigation safety and also to reduce regulatory burdens on small entities by clarifying the relationship between the Commission's rules and procedures and those of the FAA and ensuring continued consistency in those rules and procedures. The Commission asked commenters to suggest alternatives that may further reduce the impact on small entities while achieving the above intended goals. The Commission specifically sought comment on whether to further reduce regulatory burdens on small entities by amending Section 17.17(b) (redesignated as Section 17.24) to provide that a revised FAA Circular does not impose new obligations on already-approved antenna structures. The Commission sought comment on whether such deregulatory action would unduly limit the Commission's flexibility and whether it would afford appropriate deference to the FAA's expertise and how possible alternatives could further lessen the burden on small businesses while achieving these goals.

41. For each of the rule changes, the Commission sought discussion, and where relevant, alternative proposals, on the effect that each new requirement, or alternative rules, might have on small entities. For each rule change, the Commission sought discussion about the burden that the rule change would impose on small entities and how the Commission could impose such rule changes while minimizing the burdens on small entities. For each rule change, the Commission asked whether there

¹⁰⁵ See 5 U.S.C. § 603(c).

were any alternatives that the Commission could implement that could achieve the Commission's goals while at the same time minimizing the burdens on small entities.

42. As a result, the rule modifications the Commission implements in this Report and Order will reduce redundancy, conflicts and ambiguity in antenna marking and lighting regulations. In pursuit of that end, the Commission has: (1) deleted any reference to older FAA Advisory Circulars, instead requiring structure owners to generally comply with the FAA's "no hazard" determination and associated study for a structure in establishing painting and lighting specifications; (2) eliminated the stated exemptions to the lighting and marking criteria for previously authorized structures and clarified that existing antenna structures will generally not be required to comply with any new lighting and marking requirements unless the FAA mandates application of such changes with regard to a particular structure; (3) amended the rules to provide that any change in height of one foot or greater, or any change in coordinates of one second or greater requires prior approval; (4) lengthened the notification and dismantlement requirements to provide that the owner of an antenna structure shall notify the Commission within five days of when a construction or alteration of a structure reaches its greatest height, when a construction or alteration is dismantled or destroyed, and when there are any changes in structure height or ownership; (5) continued to allow owners to voluntarily register antenna structures and required owners to designate when a particular registration is done voluntarily; (6) modified the rules to allow owners to provide tenants the ASR number and link to the Commission's online system via mail, e-mail, or other electronic means, as an alternative to providing a paper copy of Form 854R; (7) exempted qualifying NOC-based monitoring systems from quarterly inspection obligations, thereby eliminating the quarterly inspection obligation for those towers using sufficiently robust monitoring systems; (8) limited the time period to two years for requiring antenna structure owners to maintain a record of observed or otherwise known extinguishments or improper functioning of structure lights and providing such records to the Commission upon request; and (9) harmonized its tower cleaning and repainting standards with the FAA's and declined to require tower repainting every ten years. While not specifically targeted at small firms, these numerous measures are intended to lessen the regulatory burden on all tower owners and operators.

G. Federal Rules that Might Duplicate, Overlap, or Conflict with the Rules

43. The IRFA in the Notice of this proceeding omitted reference to the FAA in Section F of the IRFA even though the *Notice* addressed Commission rules that in some cases duplicated, overlapped, or were inconsistent with rules of the FAA. Notwithstanding the omission of Section F, the *Notice* and the IRFA explained how the Commission's rules overlap and are inconsistent with the FAA's rules. Accordingly, the *Notice* proposed "amendments to the Part 17 rules to update and modernize them, including harmonizing them with FAA rules where appropriate."¹⁰⁶ The IRFA noted the overlapping and conflicting rules vis-à-vis the FAA's and Commission's shared responsibility to safeguard air traffic and promote tower safety and visibility.¹⁰⁷ Specifically, the IRFA proposed to eliminate Commission rules that were restatements of FAA rules and to cross reference relevant FAA rules in order to eliminate confusion.¹⁰⁸ The IRFA also proposed changes that were intended to clarify the relationship between the Commission's rules and procedures and those of the FAA to ensure continued consistency in those rules and procedures.¹⁰⁹ The Commission further proposed to require use of the FAA's criteria for tower visibility, including determining when an antenna structure needs to be cleaned and repainted.¹¹⁰

¹⁰⁶ See *Notice*, 25 FCC Rcd at 3987, para. 8.

¹⁰⁷ See *id.* at 4011, Appendix B, paras. 2, 3.

¹⁰⁸ See *id.* at 4011, Appendix B, para. 5.

¹⁰⁹ See *id.* at 4012, Appendix B, para. 7.

¹¹⁰ See *id.* at 4012, Appendix B, para. 9.

44. In the *Report and Order*, the Commission takes the following actions to harmonize Commission rules with overlapping FAA rules by: (1) eliminating any reference to older FAA Advisory Circulars in the Commission's rules, and instead requiring structure owners to generally comply with the FAA's "no hazard" determination and associated study for a structure in establishing painting and lighting specifications; (2) deciding that it generally will not require existing antenna structures to comply with any new lighting and marking requirements unless the FAA mandates application of such changes with regard to a particular structure; (4) determining that it will continue to defer to the FAA and require antenna structure owners to provide height and location measurements matching those provided to the FAA in their applications; (5) modifying notification and dismantlement requirements to make them consistent with the FAA's rules by requiring the owner of an antenna structure to notify the Commission within five days of when a construction or alteration of a structure reaches its greatest height, when a construction or alteration is dismantled or destroyed, and when there are any changes in structure height or ownership; (6) revising Commission rules to require antenna structure owners to provide continuously active NOTAM notice to the FAA of lighting outages; (7) requiring that an antenna structure owner notify the FAA that it needs to extend the lighting outage date, as well as provide a return to service date, if a lighting outage cannot be repaired within the FAA's original NOTAM period; (8) changing the requirement that the FAA must be notified of a lighting outage "by telephone or telegraph" and requiring instead that such notification be made by a means acceptable to the FAA; and (9) adopting the FAA's "In-Service Aviation Orange Tolerance Chart" as the benchmark for determining whether a structure needs to be cleaned or repainted.

45. The Commission sought extensive public comment on these issues in the Notice, and in the attached IRFA. After an exhaustive review of the record and a careful weighing of the costs and benefits, the Commission adopted the proposed regulatory changes to eliminate duplicative, overlapping, or conflicting regulations, thereby achieving improved regulatory harmonization with the FAA.

H. Report to Congress

46. The Commission will send a copy of the Report and Order, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.¹¹¹ A copy of the Report and Order and FRFA (or summaries thereof) will also be published in the Federal Register.¹¹²

I. Report to Small Business Administration

47. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

¹¹¹ See 5 U.S.C. § 801(a)(1)(A).

¹¹² See 5 U.S.C. § 604(b).

**STATEMENT OF
CHAIRMAN TOM WHEELER**

Re: ***2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM 11349***

In order to keep up with the rapid pace of change in the industries that we oversee, we must hold ourselves to a high standard to be as agile, efficient, and transparent as possible.

That's why, under the leadership of Diane Cornell, we have been moving forward with changes to streamline how the Commission functions, including overhauling outdated Commission rules. This decision is an example: the issues resolved in this proceeding were first raised more than nine years ago. Today they move off of that backlog.

With this item, we are updating our rules regarding antenna structure lighting and marking to provide clarity and reduce regulatory burdens on antenna structure owners and licensees. The reforms we adopt here will remove barriers to wireless deployment, reduce unnecessary costs, and encourage providers to continue to deploy advanced systems that facilitate safety.

More specifically, this Report and Order will streamline and eliminate outdated provisions of the Commission's Part 17 rules governing the construction, marking, and lighting of antenna structures. The amended rules will improve efficiency, reduce regulatory burdens, and enhance compliance with tower painting and lighting requirements, while continuing to ensure the safety of pilots and aircraft passengers nationwide. This is an area where the FCC and the FAA have overlapping jurisdiction. The Report and Order aims to harmonize our rules with the FAA's guidelines that also govern antenna structure lighting and marking, recognizing that the FAA is the expert agency on matters of air safety.

The Report and Order makes many common sense updates to our rules, which will meaningfully lower the costs of mobile broadband deployment. For example, instead of requiring tower owners to physically send tenants a copy of their FCC Antenna Structure Registration, they can now use mail, email, or other electronic means to deliver a link to the same information that is contained on the FCC website. We've already heard from one tower company familiar with the order that this rule change will reduce costs substantially by modernizing the way it can notify tenants on its 20,000 towers that its Antenna Structure Registrations have been modified.

Similarly, instead of requiring tower owners to conduct quarterly physical inspections of their lighting equipment, technology can be harnessed to do the job. Towers that are continuously monitored remotely will be exempt from the physical inspection obligations. These advanced systems employ self-diagnostic features, such as alarm notification and 24-hour polling, to report malfunctions of either the lighting or monitoring system to a Network Operations Center that is staffed around the clock. This will save tower companies millions of dollars per year without compromising safety. American Tower estimates, for example, that it spends approximately \$1.7 million/year to conduct required inspections – even though it maintains a state-of-the-art monitoring system.

While this item eases regulatory burdens, it also preserves safeguards that prevent deleterious impacts on historical, environmental, and local interests.

This is one piece of the puzzle in our ongoing work to make the regulatory approval processes for wireless infrastructure more efficient and effective, benefitting the companies that deploy wireless networks and the consumers that are demanding more and more spectrum-based services all the time.

Thank you to the Wireless Bureau for their work on this item.

**STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN**

Re: ***2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM 11349***

For some time now, the wireless topics getting the most press attention tend to involve the upcoming AWS-3 and voluntary incentive spectrum auctions. We expect that these auctions will help the commercial wireless industry meet the explosive demand, for mobile services. We also anticipate that the auctions will jump start broad based economic growth, because the wireless industry is a key driver when it comes to job creation and manufacturing.

Less written about, however, are the Commission's rules concerning infrastructure deployment such as the Part 17 requirements for antenna tower registration and maintenance. But spectrum allocation and infrastructure policy are linked. If we want the upcoming spectrum auctions to yield the greatest benefits for mobile consumers and our economy, we must review and where possible streamline our infrastructure deployment policies. We must make sure that our licensees meet their public interest obligations. But our focus should also be on removing any unnecessary rules. Instead of spending finite resources on compliance with needless rules, the wireless industry and the regulators, should retarget those resources on investments in improved networks that cover larger service areas.

Antenna tower registration and maintenance requirements are necessary to ensure these structures do not jeopardize aviation safety, but some of these rules are decades old and are now outdated. One example is the requirement for quarterly physical inspections of tower monitoring systems, which have cost some of the larger tower companies millions each year. Advances in technology now allow for remote monitoring to ensure that those towers have the proper lighting required by our rules. Therefore, I am pleased this Order will exempt tower owners from a quarterly inspection requirement, if they use a Network Operations Center based monitoring system that is staffed with trained personnel, who can respond to alarms 24 hours a day. Today's Order also improves our lighting outage notification requirements, standardizes repair timelines, and harmonizes other maintenance requirements, with current FAA guidelines.

So I commend the parties, such as PCIA, for their advocacy on these issues and also thank Roger Sherman, Sue McNeil, Michael Smith and the other members of the Wireless Bureau, who worked hard to bring forth, this excellent item.

STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL

Re: ***2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM 11349***

The world has gone wireless. Already in this country we have more mobile phones than people. By the end of the decade we expect to have as many as 50 billion devices communicating wirelessly worldwide with the Internet of Things. All of this activity in our airwaves puts a premium on spectrum.

So around here, spectrum usually gets all of the glory. But not today. Today, in this Report and Order, we acknowledge that wireless infrastructure is the unsung hero of the wireless revolution. Because no amount of spectrum will lead to better wireless service without good—and safe—infrastructure.

To give infrastructure its due, we streamline Commission rules governing construction, marking, and lighting of antenna structures. This clears the way for speeding our Antenna Structure Registration process. It clarifies the obligations of owners of antenna structures. It also harmonizes our rules with policies from the Federal Aviation Administration. This last point is important, because keeping these rules up to date helps ensure the safety of pilots and aircraft passengers nationwide. All around, these are good things. Moreover, they bring an overdue bit of attention to the nitty-gritty role infrastructure plays in making our wireless world possible.

STATEMENT OF
COMMISSIONER AJIT PAI

Re: ***2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM 11349***

When the Commission eliminates a rule specifying that tower owners must notify the FAA about lighting outages “by telephone *or telegraph*,”¹ you know our modernization effort is long overdue. I’m glad we’re updating our rules today, especially by streamlining some of those governing towers, antennas, and other infrastructure. Spectrum policy grabs the headlines, but wireless infrastructure is no less important. No matter how much spectrum we make available, consumers won’t have superior or even adequate wireless service if companies can’t deploy infrastructure in a timely manner.

And for far too long, the FCC’s infrastructure rules have not kept pace with changes in technology. They have impeded innovation and imposed costs with few—if any—offsetting public benefits. Today’s *Order* makes some progress on this front.

For example, we eliminate an unnecessary mandate by determining that tower owners that use advanced monitoring systems in network operations centers need not conduct quarterly, in-person tower inspections. This is a needless requirement that has cost one company alone \$9.8 million since 2007. By getting rid of outdated regulations like this, we enable infrastructure providers to focus less on jumping through pointless regulatory hoops and more on meeting consumers’ growing demand for wireless services.

But there is much more work to be done. In 2012, I called on the Commission to streamline and reform our rules governing the deployment of wireless infrastructure.² Then, in a unanimous vote last year, we announced a comprehensive review of all our wireless infrastructure rules. We teed up issues like small-cell deployments, Distributed Antenna Systems, the use of local moratoria, and improvements to our shot clock rules—reforms that are beyond the scope of today’s narrower *Order*.³

Now is the time to complete that review and update our rules in a comprehensive manner. We need to remove barriers to infrastructure deployment so that America can continue to lead the world in wireless.⁴ I look forward to working with my colleagues to make that happen.

¹ 47 C.F.R. § 17.48(a) (emphasis added).

² Remarks of Commissioner Ajit Pai at CTIA’s MobileCon, San Diego, California (Oct. 10, 2012), <http://go.usa.gov/Dd6k>.

³ See *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies; Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting; 2012 Biennial Review of Telecommunications Regulations*, WT Docket Nos. 13-238, 13-32, WC Docket No. 11-59, Notice of Proposed Rulemaking, 28 FCC Rcd 14238 (2013).

⁴ Remarks of Commissioner Ajit Pai at PCIA’s 2014 Wireless Infrastructure Show (May 20, 2014), <http://go.usa.gov/NXNQ>.

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY**

Re: ***2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission's Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission's Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM 11349.***

I am pleased to consider this item to streamline and harmonize the Commission's antenna structure rules with those of the Federal Aviation Administration (FAA). Despite the clear benefits of updating these rules, today's order has been in the works for a long time. In fact, this issue was first raised in 2005 during the Commission's own 2004 Biennial Review and, subsequently, in a Petition for Rulemaking filed in 2006.¹ The question that has to be asked is why did it take nine years to get this item before the Commission for a vote? We simply must do better than this. I applaud the Chairman for moving these backlog proceedings during his short time at the Commission.

Additionally, we were able to come to agreement on the scope of the delegated authority provided to the Bureau to update rules to reflect future FAA antenna structure requirements. The end result ensures that non-substantive and editorial changes can be made at the Bureau level, but all other decisions would come to the Commission for consideration. It's a reasonable compromise.

I thank the Chairman for incorporating my edits and the staff of the Wireless Telecommunications Bureau for their work on this item.

¹ *Federal Communications Commission 2004 Biennial Regulatory Review*, WT Docket No. 04-180, Wireless Telecommunications Bureau Staff Report, 20 FCC Rcd 124, 158 (WTB 2005); PCIA—The Wireless Infrastructure Association, Petition for Rulemaking, RM-11349 (Sept. 12, 2006).